Health Planning Council

Meeting 11

Advisory Committee

Meeting 8

Joint Meeting

Madeleine Biondolillo, MD
Associate Commissioner
Department of Public Health
September 22, 2014
www.mass.gov/dph/ohpp

Agenda

- Approve Minutes of July 23, 2014 Meeting
- Review of Work to Date for Behavioral Health (BH)
- Review of Behavioral Health Slides for Public Hearings
  - Findings, Summary and Recommendations
- Hearing Schedule for Behavioral Health Plan
- Review Issue Briefs to date
- Example of Second Service Line:
  - Percutaneous Coronary Intervention (PCI)
- Next Meeting

Progress

- Based on the original analytic plan, the Council identified six priority service lines for Level 3 analysis.
- The first service to be planned – Behavioral Health – required significant adaptation of traditional planning techniques to accommodate features specific to that service line.
- DPH would like to present to the Council a second service line that is more amenable to traditional health planning methodologies.
- Compared to Behavioral Health, Percutaneous Coronary Intervention (PCI) is a much more readily defined and discrete service line for analysis. In the context of monitoring PCI in the Commonwealth, DPH has started to apply health planning methods to PCI.
- DPH is presenting this PCI information today for Council and Committee input.
- In addition, DPH is presenting an updated draft of the Behavioral Health Plan in preparation for public comment.

Behavioral Health

Timeline

- **Reminder of Timeline**

	Oct. 2013	Nov. 2013	Dec. 2013	Jan. 2014	Feb. 2014	Mar. 2014	Q2 2014	Q3 2014	Q4 2014
Council Meetings	Strategic Plan Presented	Check point	Check point	First deliverables reviewed	Check point	Second deliverables reviewed	Draft plan		
Advisory Committee Meetings		Strategic Plan Presented	Check point	First deliverables reviewed	Check point	Second deliverables reviewed	Draft plan		
Deliverable 1: Analytic Outline, Service Line Maps									
Deliverable 1 Complete				Deliverable 1 submitted					
Deliverable 2: Key Definitions									
Deliverable 2 Complete						Deliverable 2 submitted			
Deliverable 3: Level III Analysis									
Public Hearings on Deliverable 3								Public Hearings →	
Deliverable 3 Complete									Deliverable 3 Complete

Timeline

Reminders

- Service Mapping – Complete, with supplements today
- Service Definitions – Complete
- Needs Framework – Complete
- Inventory: Beds, Licensed Programs and Contracts – Complete
- Analytic Approach for Utilization Data – Complete
- Utilization Data, Analysis and Report – Complete, with updates today
- Projections of Population Growth and Future Need – Complete
- Summary and Recommendations – Updated

Slides for Public Hearings

Health Planning Council

Behavioral Health Analysis Project

Public Hearings

Madeleine Biondolillo, MD
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Department of Public Health
October, 2014
www.mass.gov/dph/ohpp

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- Estimates of Need, Population Growth and Stakeholder Feedback
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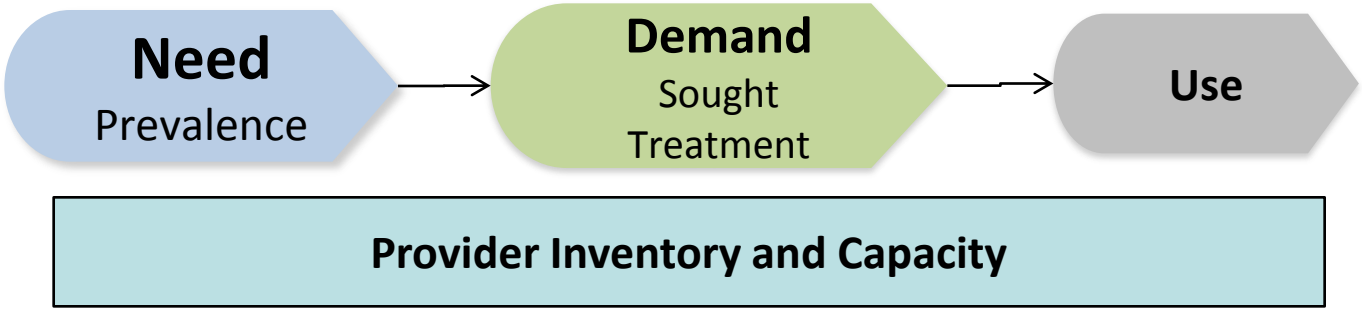
- Utilization and Access Data
- Conclusion and Summary
- Recommendations

Analytic Road Map and Framework – Report



- What is the capacity of Massachusetts' behavioral healthcare system to serve those in need?
- Needs based upon national prevalence and survey data.
- Demand for services in behavioral health is highly elastic and data such as wait lists are not readily available. Many people meeting diagnostic criteria are not "ready" for treatment. Interviews, document review and comparisons of claims levels will help us comment on demand.
- Use data came from five primary sources: DPH-BSAS; DMH; MassHealth; Medicare 5%; APCD commercial data.

•Provider inventory is available primarily for licensed programs and is covered in this presentation.

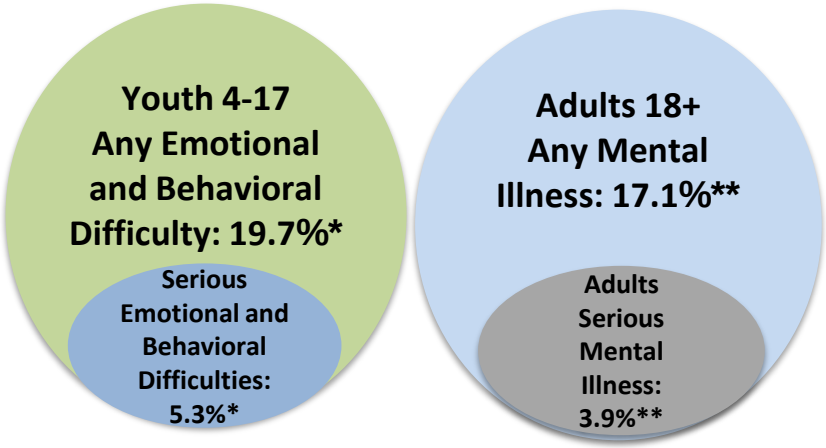
Estimation of Need and Stakeholder Feedback

Summary: Need

- People with any signs of mental illness comprise 17-19% of the population; more serious conditions are reported for 4-5% of the population.
- People with substance use disorders are roughly 10% of the population, but national data suggest only 11% of these actually receive services.

Mental Health Conditions

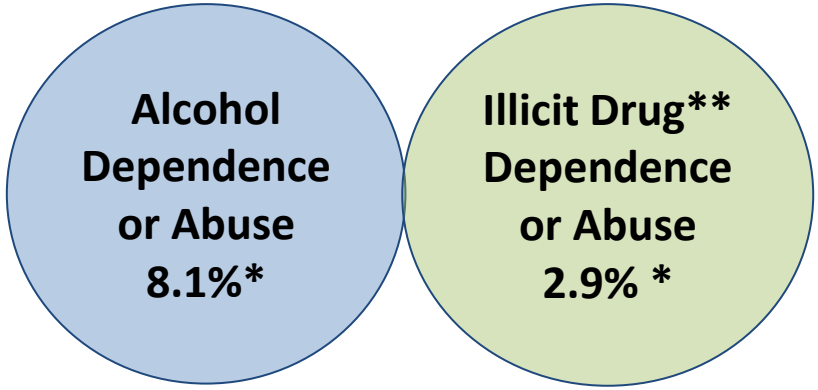
NSDUH and National Health Information Survey



* National Health Information Survey 2011
** National Survey of Drug Use and Health 2008-11 (rev 10/13) and 2012
***2014 population projections from UMass Donahue Institute

Substance Dependence and Abuse (MA)

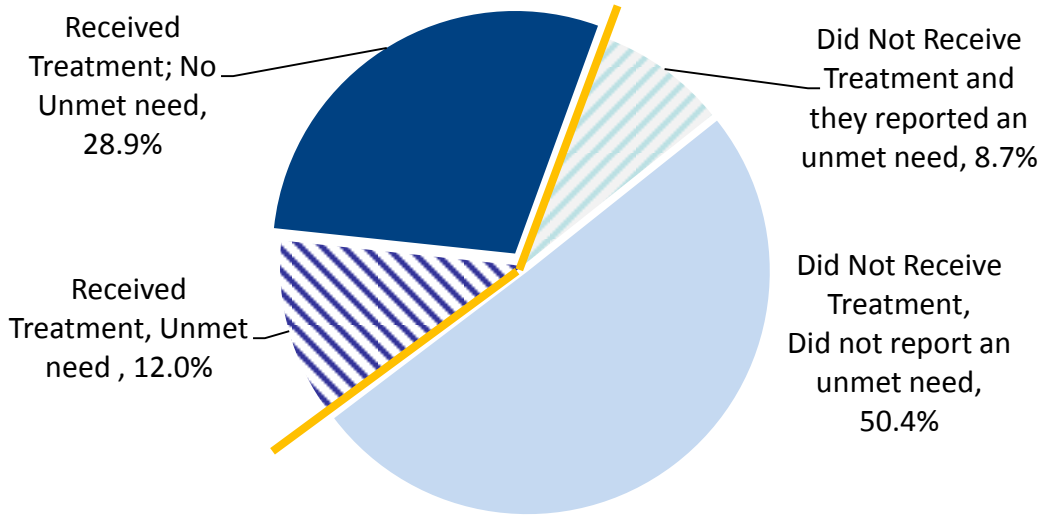
(2008-11 and 2012 NSDUH Combined)



**Dependence or Abuse Past Year Ages 12+* – NSDUH 2008-11 (rev 10/13) and 2012
***Illicit Drugs* include cocaine, heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics and marijuana used non-medically
***NSDUH 2012
2014 population projections from UMass Donahue Institute

Significant Number of People with Any Mental Illness (AMI) Did Not Get Treatment and Did Not Report an Unmet Need

Unmet Need for Treatment in the Past Year and Receipt of Treatment, Among those with AMI, Ages 18+ in the US, 2012



Received Treatment?	Unmet Need? Yes	No
Yes	12.0%	28.9%
No	8.7%	50.4%

Respondents who were identified as having AMI were asked "was there any time when you needed mental health treatment or counseling for yourself but didn't get it?"

- 9% did not get treatment and yet they reported an unmet need
- Half of people reporting a mental illness did not get treatment, and did not report an unmet need (despite being identified with a mental illness)
- 12% got treatment, and reported an unmet need
- 29% who met the criteria for any mental illness were receiving treatment with no unmet need.

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2011 and 2012
http://www.samhsa.gov/data/NSDUH/2k12MH_FindingsandDetTables/MHDT/NSDUH-MHDetTabsSect1peTabs2012.htm - Tables 1.1A , 1.24A , 1.39A
Source on Massachusetts: Substance Abuse and Mental Health Services Administration. Behavioral Health Barometer: Massachusetts, 2013. HHS Publication No. SMA-13-4796MA. Rockville, MD: Substance Abuse and Mental Health Services Administration, 1 Choke Cherry Road, Rockville, MD 20857, p.9

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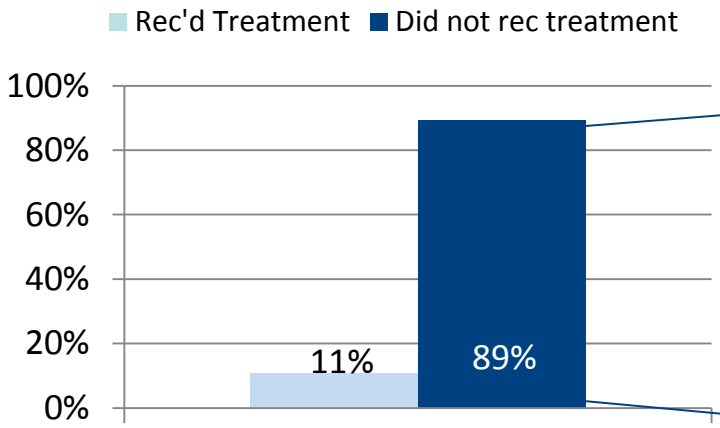
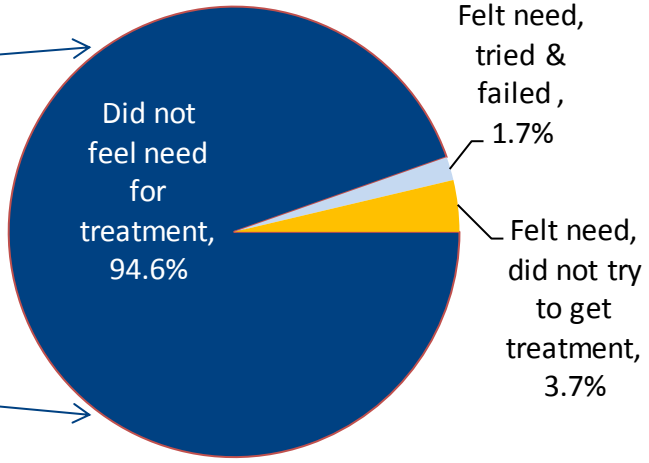
Significant Number of People with SUD Do Not Feel a Need for Treatment

Percentage of People with SUD who Received Treatment

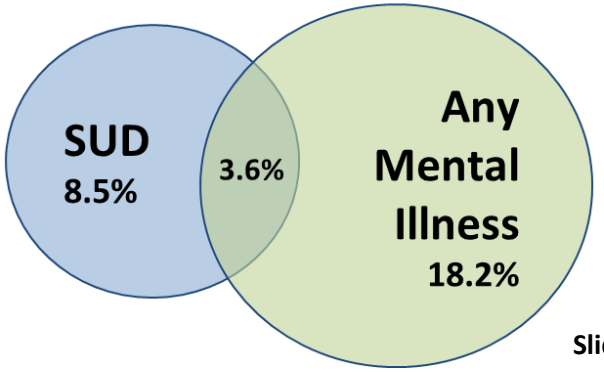


Percentage of People who did Not Receive Treatment by Perceived Need and Attempts to Get Treatment



- **Only 11% of people reporting an SUD received treatment**
- **Of the remaining 89%, most of these (95%) did not "feel the need for treatment" (awareness).**
- **3.6% of the 18.2% with AMI or 8.5% with SUD had co-occurring conditions**

Co-occurring Substance Use Disorder & Mental Illness Conditions (US – 2012)**



Source on Need for and Receipt of Treatment: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2011 and 2012 - Table 5.51A , Table 5.53A - http://www.samhsa.gov/data/NSDUH/2012SummNatFindDetTables/DetTabs/NSDUH-DetTabsSect5peTabs1to56-2012.htm

Population Growth

- The Donahue Institute at UMass Boston developed population projections for Massachusetts that projected a modest 1.8% overall increase in the state's population over the next 6 years (in 2020 - see next page).
- Metro Boston showed the highest growth rate at 3.6% over that period, while the Cape and the Islands showed a minor decrease in population.
- Data were not readily available for racial and ethnic groups for the HPC regions and for utilization data.
- **These estimates have a very small impact on the capacity projections and the regional variation is also very small.**
- An increasingly aging population and improvements in health and wellness may in fact increase number of people with SMI and SUDs requiring long-term services and supports

HPC Region	2014 Estimates	2020 Estimates	% Increase
Western MA	821,826	826,758	0.6%
Central MA	763,769	787,434	3.1%
Northeast	1,401,973	1,410,555	0.6%
Metro West	660,610	667,763	1.1%
Metro Boston	1,575,595	1,632,689	3.6%
Metro South	820,790	838,931	2.2%
South Coast	340,404	342,096	0.5%
Cape and Islands	243,352	242,567	-0.3%
Total	6,628,319	6,748,792	1.8%

Source: UMass Donahue Institute – Special Analysis for Health Planning Council November 2013.

Stakeholder Feedback Process

DPH released a request for information in January 2014. There were 27 responses and 18 additional interviews were held with state leaders, payors, consumers and provider associations.

The following 5 points summarize the stakeholder input:

1. Compared to public payors, commercial insurers currently provide more limited coverage of residential recovery or treatment and other community services for mental health and substance abuse care.
2. Patient access to an optimal continuum of mental health and substance abuse care is seriously reduced by the limited capacity of residential and community care and of some types of inpatient care.
3. Low payment rates and funding are reported to adversely affect system capacity and access.
4. Divided responsibilities and a lack of statewide planning capacity have inhibited comprehensive understanding and improvement of behavioral services.
5. Data sources available to document the extent of the unmet demand for community services are in need of further development

Mental Health and Substance Abuse Inventory

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The Framework: Service Definitions

The Health Planning Workgroup organized services into eight major service categories that include all mental health and substance abuse services provided in the state. These service categories, which differ only slightly between mental health and substance abuse, provided a framework for thinking about the state's inventory and the utilization of services.

MENTAL HEALTH SERVICES		SUBSTANCE ABUSE SERVICES	
Service Group	**Definition**	**Service group**	**Definition**
Inpatient and Continuing Care	Acute or extended inpatient psychiatric hospitalization services	**Inpatient and Other Acute Care**	Care in hospitals and non-hospital settings for acute detoxification, stabilization and other substance abuse treatment
Intermediate Care	Services provided as a step-down or alternative to inpatient care	**Intermediate Care**	Care provided as a step-down or alternative acute care
Residential Care	Care provided in a 24-hour residential program	**Residential Care**	Rehabilitation services with a planned care program in a 24-hour residential setting
Outpatient Care	Care in an ambulatory setting such as a mental health center, hospital outpatient clinic or a professional's office	**Outpatient Care**	Care in an ambulatory setting such as a community health center, substance abuse treatment program, hospital outpatient department, a professional's office, or a patient's home
Care Management	Services to manage mental health care or to coordinate with other health or social services	**Case Management**	Discrete services to manage substance abuse care or to coordinate with other health or social services
Bundled Services	A coordinated array of mental health and supportive services for people with mental illness living in the community		
Recovery and Family Support Services	Programs to help people support each other in their recovery from mental illness and to support families of children with mental illness	**Recovery Support Services**	Programs to help people maintain their recovery and support each other in recovery
Emergency Services	Care provided in hospital emergency departments and in specialized programs of emergency mental health services	**Emergency Response**	Care and other services provided for substance abuse-related emergencies

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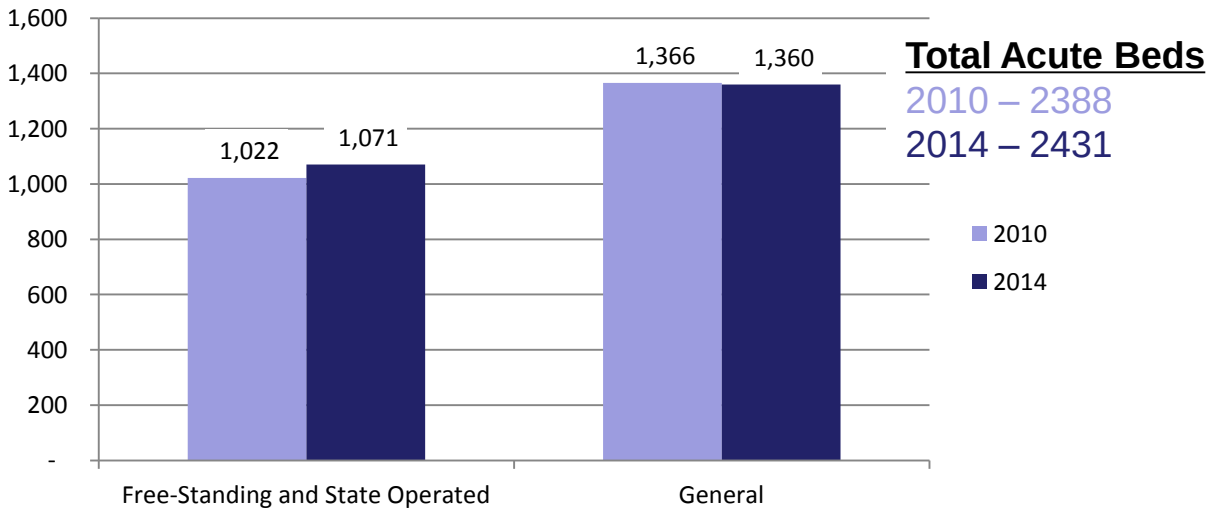
Inpatient Psychiatric Beds 2010 & 2014

There are a total of 67 acute hospitals or psychiatric units across the state, with 2,431 acute beds across different hospital groups.

- These facilities include 15 free-standing acute psychiatric hospitals, 50 psychiatric units in general hospitals, and two psychiatric units in state mental health facilities. Of the 2,431 beds, 43% are in free-standing hospitals, 56% in general hospitals, and 1% in state facilities.
- These 2,431 beds receive clients from a statewide population of 6.6 million residents, for a ratio of beds to population of 37 beds per 100,000 population.
- For age groups, 10% of beds are for children and adolescents, 73% of beds are for adults, 17% of the beds are in specialized geriatric units.

Inpatient Psychiatric Beds in Free-Standing Psychiatric Hospitals, General Hospitals and State-Operated Units, 2010 and 2014



From 2010 to 2014, bed capacity has grown 5% among the free-standing hospitals and 2% among all hospitals.

Free-standing hospital bed growth of 5% over the last four years contrasts with no growth for general acute hospital psychiatric beds that may provide care for more complex, medically involved cases.

Source: DPH and DMH licensing data, March 2014 (prior to the closing of North Adams Hospital)

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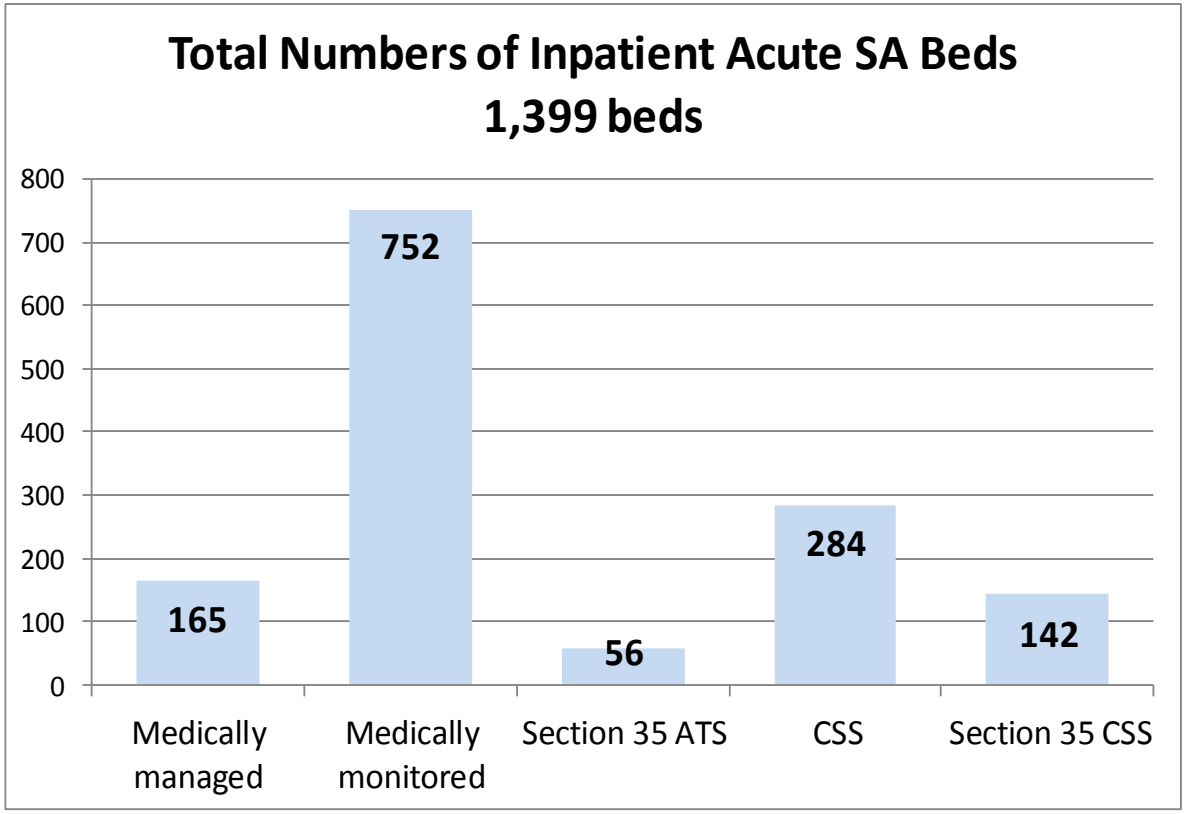
Substance Abuse Inpatient and other Acute Services

Inpatient and other acute substance abuse services inventory includes a total of 1,399 beds. These 1,399 beds receive clients from a statewide population of 5.6 million residents 13 years and older, for a ratio of beds to population of 25 beds per 100,000 population. A variety of acute substance abuse care beds serves people with different levels of need.

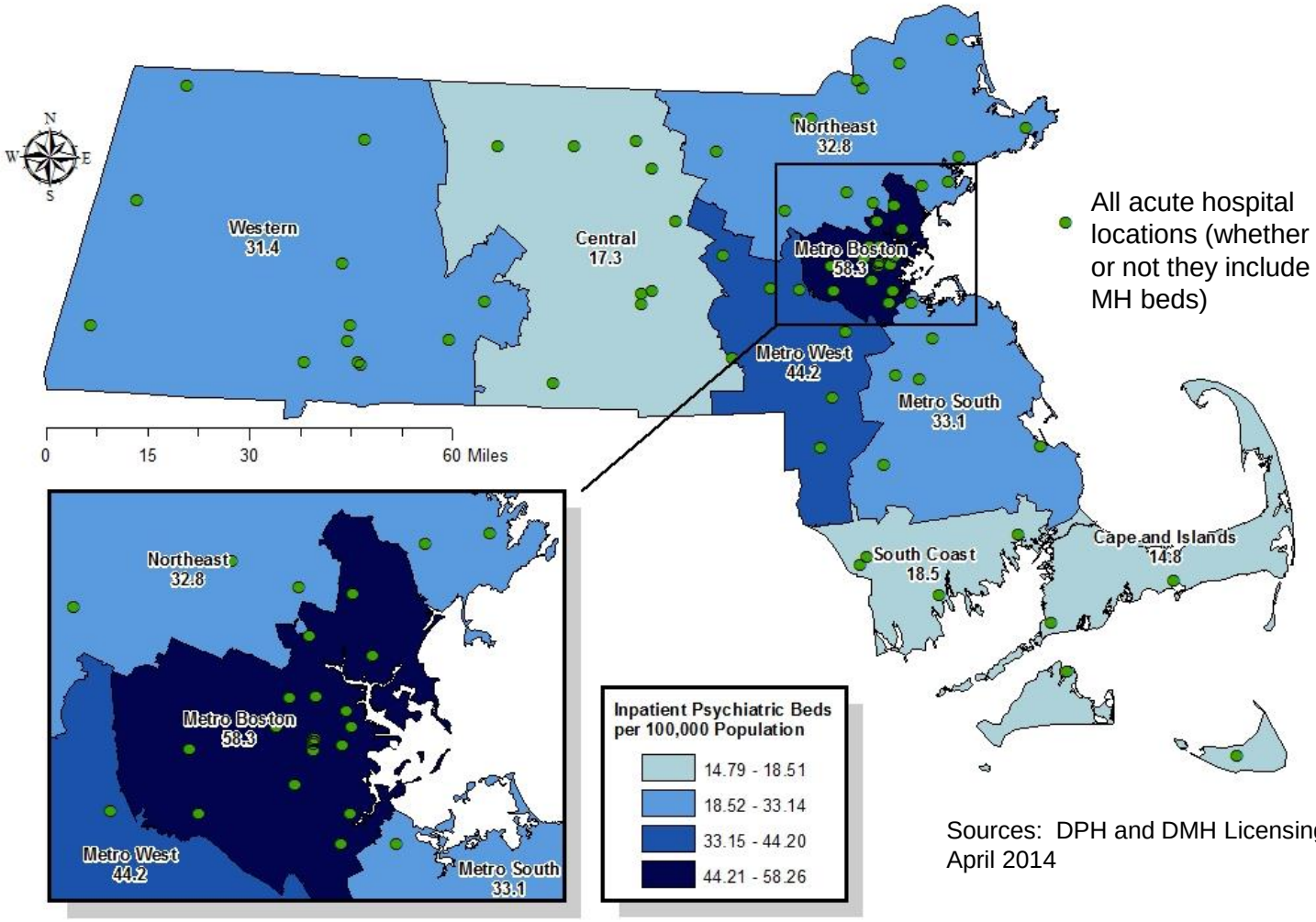
The medically managed and medically monitored beds involve the highest level of medical oversight. ATS means acute treatment services. Section 35 is the state statute for court-ordered treatment of substance abuse conditions. CSS means clinical stabilization services. Note that Sec. 35 CSS programs preferentially admit Section 35 ATS discharges for longer term stabilization services.



Source: DPH licensing data, March 2014

MH Inpatient Beds: 8 Regions

Inpatient Psychiatric Beds: Acute Free-Standing, General, and State-Operated Hospital Beds per 100,000 by Region, 2014



Bed density based on data from entire MA population.

Metro Boston has the highest concentration of beds while Cape and Islands, Central, and South Coast regions are the lowest.

Sources: DPH and DMH Licensing data, April 2014

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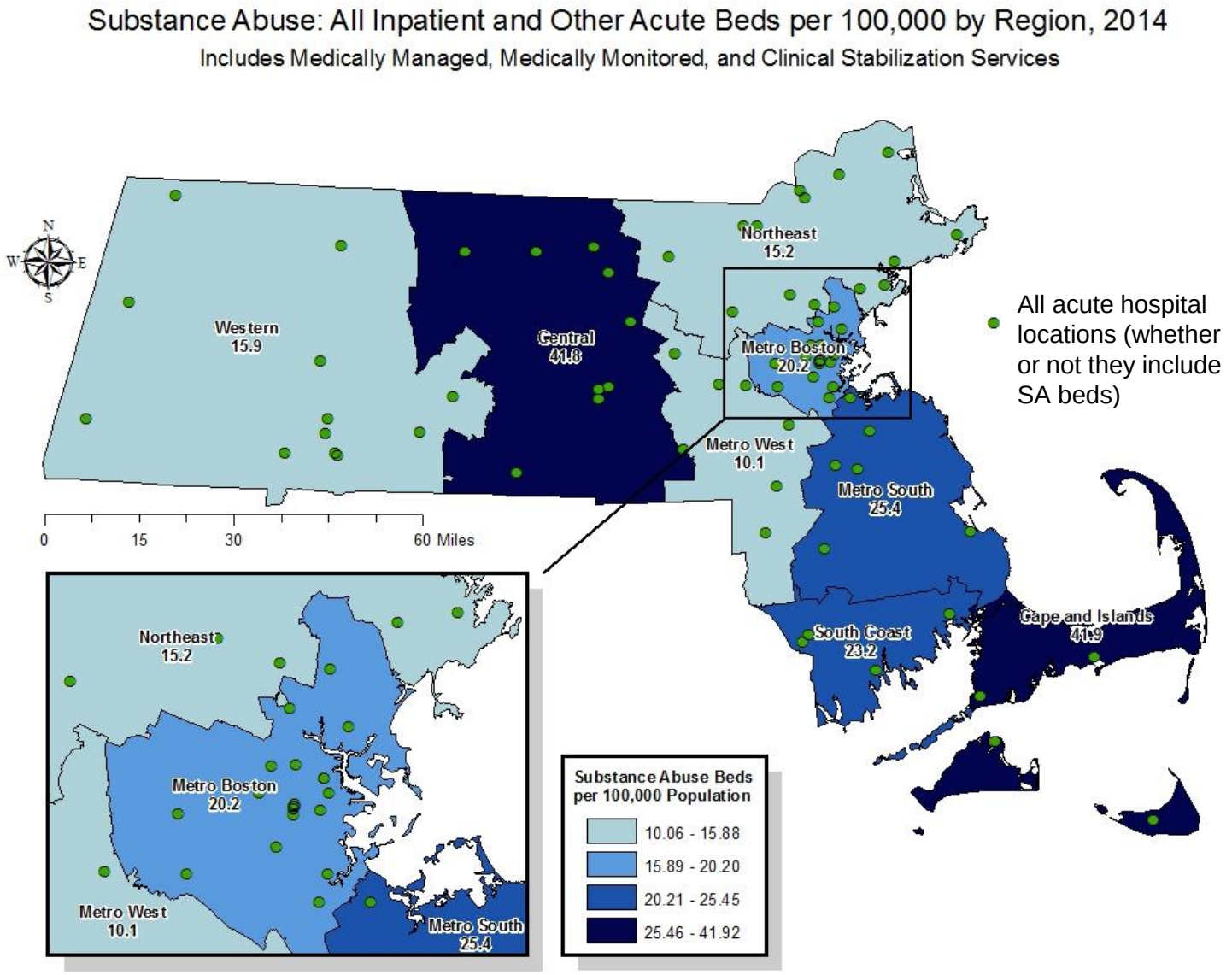
SA Inpatient and Other Acute Service Beds



Bed density based upon MA population data for ages 13+.

Central Mass and Cape Cod have the highest concentration of beds while Metro-West region is the lowest.

Utilization and Access

Payor Groups: Data sources and limitations

Medicare: From Medicare 5% sample

- Medicare: Small cell size in the Medicare under-65 population may be statistically unstable. Data were limited to FFS only (Medicare Parts A & B eligible ; Medicare HMO participation). Enrollment was defined by member months and available from an eligibility feed.

Medicaid: From MassHealth

- MassHealth: Data included claims where Medicaid was the primary insurer; in addition, third party liability claims were included to capture all service use associated with Medicaid patients. Crossover claims were attributed to Medicare (the primary insurer) and therefore excluded from Medicaid. Enrollment (i.e., member months by gender and age group) was provided by MassHealth. MassHealth data includes data for members for whom MassHealth may be a partial or third party payer, which could skew utilization results.

Commercial: All Payer Claims Database from Center for Health Information & Analysis (CHIA)

- Top 17 commercial carriers were identified based on number of behavioral health service utilizers in 2012. Enrollees aged 65 and over were excluded because they are covered by Medicare. Enrollment (i.e., member months) was obtained from CHIA's eligibility file.

Claims identified on the basis of having a behavioral-health related primary diagnosis. Differences across payers in the data fields on claims and changes in coding could result in inaccuracies in the reported utilization. There are also significant differences in coverage and benefits, and case mix severity, across plan types. Because only medical service claims were considered, and not self pay or pharmacy claims, these data likely underestimate the number of behavioral health utilizers.

The 2012 data from the three sources above cover an estimated population of 5,852,795 MA residents, or 89% of the 2014 population.

Commercial – APCD Top 17

Top 17 APCD Plans *						
Rank	Plan ID	Plan Name	2012 Enrollment***	As % of total enrollment	2012 Members who Used BH Services**	As % of total members who used BH services
1	291	Blue Cross Blue Shield of Massachusetts	1,284,768	32%	235,197	37%
2	300	Harvard Pilgrim Health Care	597,208	15%	111,976	17%
3	8647	Tufts Health Plan	426,515	11%	66,539	10%
4	10932	United Healthcare Insurance Company - United Behavioral Health	111,611	3%	34,275	5%
5	10632	WellPoint, Inc.	247,781	6%	28,097	4%
6	3735	Neighborhood Health Plan	89,896	2%	19,814	3%
7	10441	Aetna Life Insurance Company	82,483	2%	17,549	3%
8	301	Health New England, Inc.	103,079	3%	17,298	3%
9	296	Fallon Community Health Plan	101,157	3%	16,343	3%
10	10444	United Healthcare Insurance Company - Harvard Pilgrim	142,603	4%	16,302	3%
11	312	United Healthcare Insurance Company	195,566	5%	14,679	2%
12	295	Connecticut General Life Insurance Company - Medic	192,653	5%	14,326	2%
13	3505	Boston Medical Center HealthNet Plan	47,050	1%	14,245	2%
14	302	Health Plans, Inc.	24,445	1%	7,571	1%
15	8026	Fallon Health and Life Assurance Company	18,272	0%	2,924	0%
16	7789	United Healthcare Student Resources	11,692	0%	2,749	0%
17	10353	Aetna Life Insurance Company - Aetna Student Health	13,519	0%	2,596	0%
		Top 17 sub-total	3,690,299	92%	622,480	97%
		Total APCD	4,016,529	100%	643,648	100%

*Top plans by number of behavioral health client counts in 2012

**Members who used BH Services refers to number of unique clients with an ICD9 diagnosis in the 290 - 316 range

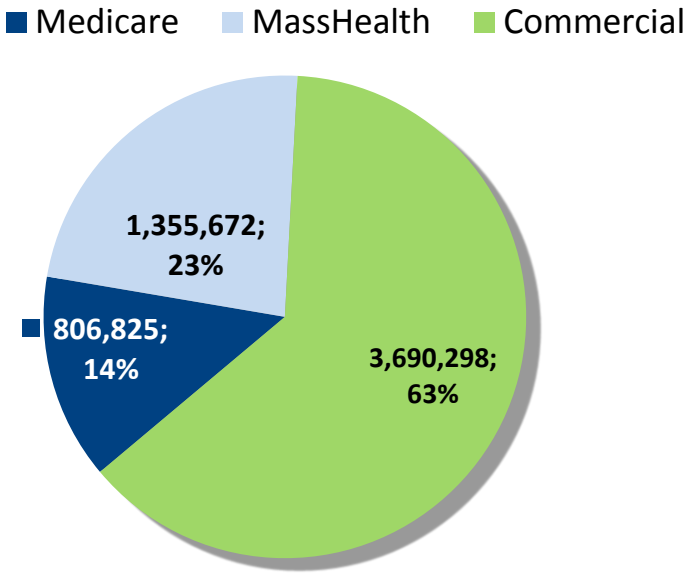
***Enrollment = member months/12 (may under count members as some Commercial enrollees are not enrolled for full 12 months)

Note: Sample shown in slide are filtered by following criteria: MA residents only (based on members zip codes); age = 64 years old and under; Commercial plans only (not Medicare, Medicaid, Medigap)

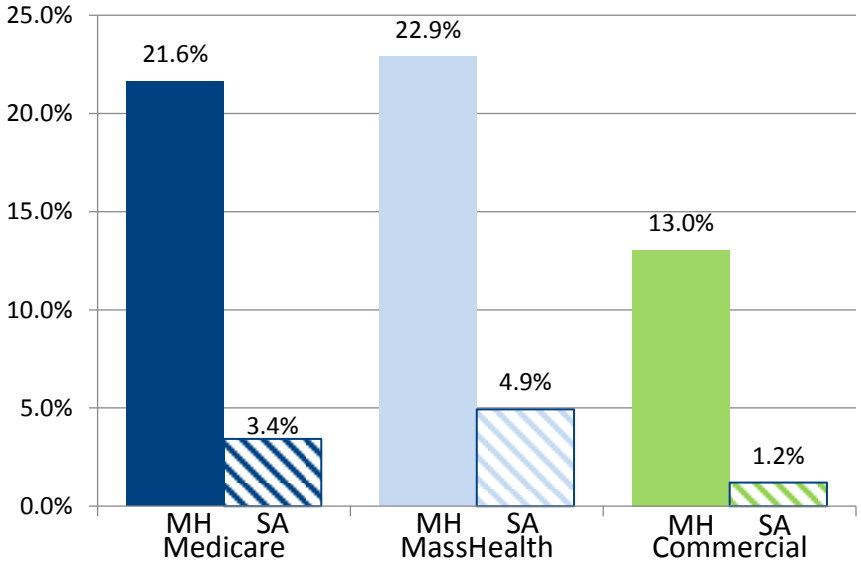
Source: APCD Release 2.0 Medical Claims and Medical Eligibility files, 2012

Summary: Access to care by Payor Group

2012 Study Population: Enrollment by Payor



2012 BH Penetration Rates



Overall mental health penetration rates were 13% to 23% for different payors, in the range expected from the NSDUH needs data. Substance abuse penetration rates were 1% to 5%, a rate lower than the prevalence rate. Medicare (1.7x) and MassHealth (1.8x) had higher mental health utilization rates than Commercial plans. Medicare substance abuse penetration rates were 2.8x commercial rates; MassHealth was 4x. These differences likely reflect differences in populations and severity of conditions.

Source: Medicare 5% sample, MassHealth, APCD

* Penetration rates are shown as the number of clients accessing BH services who have a diagnosis, divided by the number of enrollees (member months divided by 12). Enrollment = member months divided by 12 (because some members are not enrolled in an individual plan for all 12 months, these data likely underestimate enrollment)

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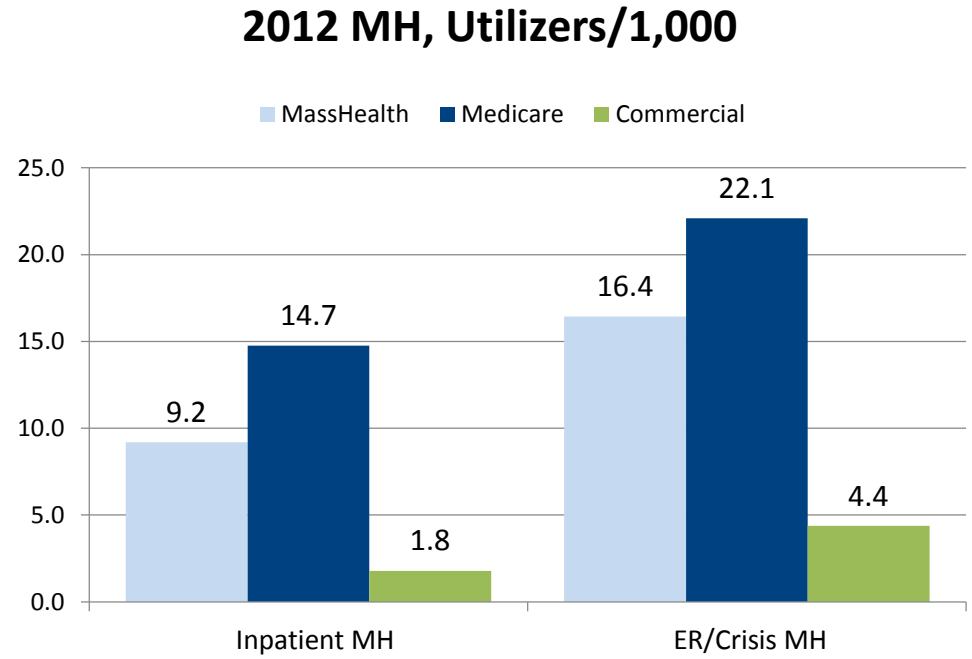
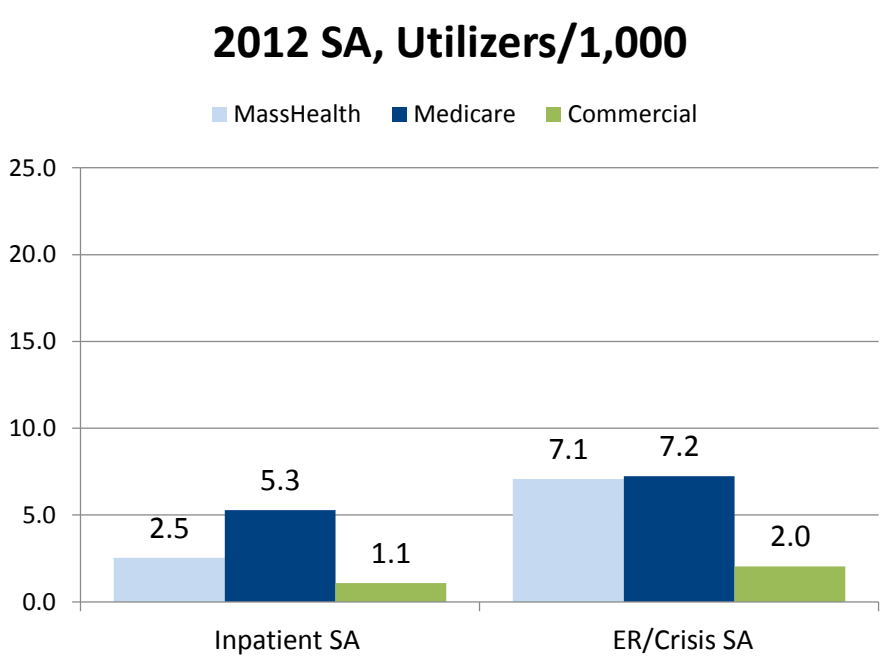
MH and SA Inpatient and ER
Service Utilizers per 1,000 Enrollees





- Medicare FFS had the highest rates of utilizers/1000 for inpatient and emergency room visits for both mental health and substance abuse. MassHealth utilization rates for mental health inpatient services were 5 times the Commercial rates.
- MH and SA inpatient days decreased over the three-year period, though the magnitude varied across payor groups.
- Utilization of ER visits appeared to increase among Medicare enrollees; this trend was not seen among MassHealth and Commercial enrollees.
- Age cohorts for each payer showed important differences
- The handling of claims for dual eligibles skews the results on this and subsequent slides.

Source: Medicare 5% sample, MassHealth, APCD

Inpatient & ER Utilizers/1,000 by Age Group, 2012

Mental Health Inpatient and ER Utilizers Per 1,000 Covered Lives by Payer, 2012			
	MassHealth	Medicare	Commercial
Age 0-17			
Inpatient	4.0	0.0	1.4
ER	6.1	0.0	4.6
Age 18-25			
Inpatient	16.6	**77.1**	1.4
ER	23.1	**103.9**	4.6
Age 26-64			
Inpatient	14.3	**42.4**	1.5
ER	26.9	**57.4**	3.3
Age 65+			
Inpatient	0.8	**5.8**	0.0
ER	6.2	**10.7**	0.0

Substance Abuse Inpatient and ER Utilizers Per 1,000 Covered Lives by Payer, 2012			
	MassHealth	Medicare	Commercial
Age 0-17			
Inpatient	0.1	0.0	0.1
ER	0.6	0.0	0.6
Age 18-25			
Inpatient	2.6	**10.1**	2.7
ER	9.2	**26.8**	6.2
Age 26-64			
Inpatient	5.4	**19.4**	1.2
ER	14.2	**24.5**	1.7
Age 65+			
Inpatient	0.1	**1.0**	0.0
ER	7.1	**1.9**	0.0

Medicare FFS has high utilization rates largely as a result of the under 65 disabled population. Medicare MH utilization for individuals 26-65 was 5.5x (ER) and 7.5x (Inpt) more likely than for those 65 and older. For SA services, the differences were even higher at 12.9x (ER) and 19.1x (Inpt). Small sample sizes may contribute to these findings.

Not shown, females had slightly higher MH service use rates than males, however males were significantly higher than females for substance abuse treatment services.

Source: Medicare 5% sample, MassHealth, APCD

Inpatient Occupancy Rates

Massachusetts Psychiatric Hospital Data

- Free standing occupancy rates average slightly less than 84%.[6]
- Acute general hospital rates are around 90%.[7]
- Snapshot on a single day in August 2014 from MABHAccess website shows occupancy rates are higher, with variation by population and region.[8]
- Qualitative research shows that hospitals aim for 90-95% occupancy, and are nearly fully utilizing all licensed beds.

Occupancy Benchmarks

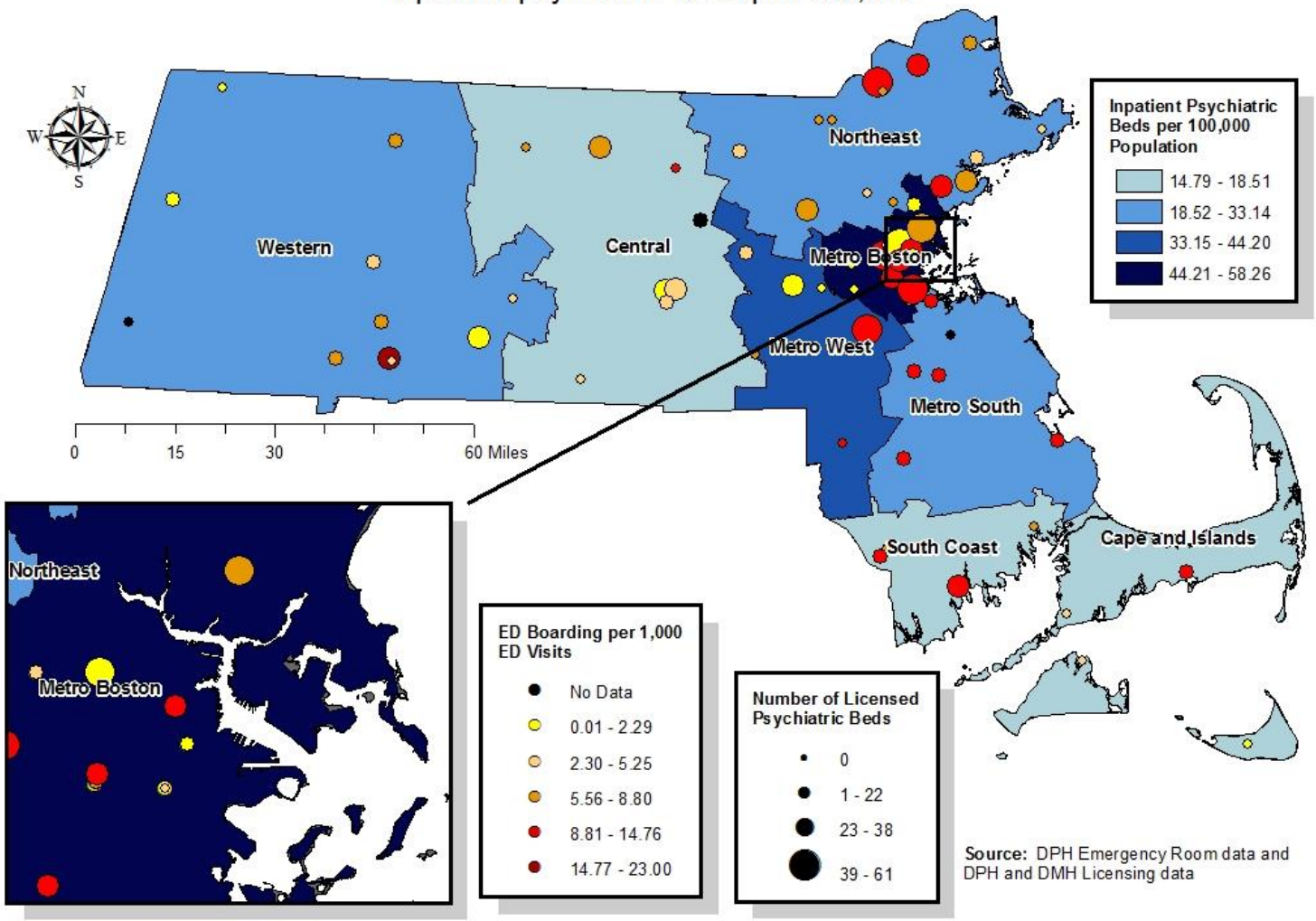
- One commonly cited study states that above 85% occupancy, bed shortages occur in hospital emergency departments.[1] [2]
- Several state health plans use figures from 70% to 85% occupancy rates as thresholds to demonstrate need for increased psychiatric capacity.[3] [4] [5]

Conclusion: Multiple sources of data suggest that both free-standing and psychiatric units at general hospitals are operating at or above full capacity.

1. Adrian Bagust, Michael Place and John W Posnett, "Dynamics of bed use in accommodating emergency admissions: stochastic simulation model," *BMJ* 319 (1999): 155–8.
2. Royal College of Psychiatrists, "Do the right thing: How to judge a good ward," June 2011.
3. *South Carolina State Health Plan 2012-2013*, "Chapter IV: Psychiatric Services," http://www.scdhec.gov/Health/docs/2012-2013%20SC%20Health%20Plan.pdf.
4. *Mississippi State Health Plan 2014*, "Chapter 3 – Mental Health," http://www.msdh.state.ms.us/msdhsite/index.cfm/19,5619,184,pdf/Chapter_3_Mental_Health.pdf.
5. Florida Administrative Code, 59C-1.040. Hospital Inpatient General Psychiatric Services, http://florida.eregulations.us/rule/59c-1.040; Florida Administrative Code, 59C-1.041, Hospital Inpatient Substance Abuse Service, http://florida.eregulations.us/rule/59c-1.041.
6. Center for Health Information and Analysis, Massachusetts Hospital Profiles: Data Through Fiscal Year 2012 - Non-Acute Hospital Data Appendix (March 2014).
7. Massachusetts Hospital Association, Inc., *PatientCareLink,* http://patientcarelink.org/.
8. Massachusetts Behavioral Health Partnership, *Massachusetts Behavioral Health Access*, http://www.mabhaccess.com/.

Emergency Department Utilization

Number of patients (per 1,000 ED visits) with a behavioral health diagnosis with an ED stay >=12 hours after a disposition decision has been made in 2013 overlaid with inpatient psychiatric beds per 100,000



Source: DPH Emergency Room data and DPH and DMH Licensing data

DMH and BSAS Utilization

- DMH and BSAS both reported on the number of clients served for most services (see next slide) but each agency uses two or more data systems with significant limitations on some of these systems. DMH payment methods and their data systems do not permit the agency to easily track clients' utilization of multiple services and some data is limited to authorization data not actual use. Most of the clients reported by DMH and BSAS are included in other client counts from MassHealth, Medicare or Commercial coverage.
- DMH and BSAS fund an extensive array of recovery and rehabilitation services in community settings for anyone meeting the need. They are not available from most other payers. CBFS services are an example of the kind of payment reforms needed for the system but cross agency data are needed to understand the levels of inpatient and ER use for these clients when paid from MassHealth or Medicare.
- The majority of services reported by each agency are active rehabilitative treatment options, long-term residential support services or step-down levels of care (e.g., CSS and TSS services) that are not fully funded by most other payers. BSAS also pays for services for the uninsured.

Commonwealth of Massachusetts
Department of Public Health

DMH / BSAS Utilization: Client Use of Services by Year

DMH

DMH - Clients Served by Service and by Calendar Year, 2011-2013

	CY2011	CY2012	CY2013	Avg Annual Change
Continuing Care	1,595	1,607	1,639	1%
CBFS	14,153	13,608	13,487	-2%
Clubhouse*	N/A	N/A	3,710	N/A
Adult Case Management	5,760	5,763	5,581	-2%
C/A Case Management	1,097	1,010	945	-7%
PACT	997	1,095	1,128	6%
IRTP	145	151	141	-1%
Flex	1,364	1,706	2,387	32%
Adult Respite	1,236	1,335	1,438	8%

*Contracts began 7/1/13, utilization reflects 6 months.

BSAS

BSAS Clients Served by Service and by Calendar Year, 2011-2013

Service Group	Service	CY2011	CY2012	CY2013	Avg Annual Change
Inpatient and Other Acute Care	Acute Treatment Services (ATS)	20,992	21,891	23,276	5%
	Section 35	2,906	2,918	3,026	2%
	Clinical Stabilization Services	5,504	5,305	5,485	0%
Intermediate Care	Transitional Support Services	3,823	3,596	3,848	1%
	Day Treatment	5,054	4,612	3,742	-14%
Residential Care	Residential	7,645	7,997	8,174	3%
Outpatient Care	Counseling	25,422	24,706	24,331	-2%
	Methadone	18,631	19,342	20,100	4%
	Office-Based Opioid Treatment (OBOT)	2,617	2,782	2,621	0%

Notes for Table 3

ATS includes Detox level iii.7 licensed programs including Youth Stabilization Programs. OBOT service only contains data from the 14 BSAS-funded programs.

Definition of measures Clients received treatment service in the calendar year funded by MassHealth, BSAS and other payors.

Source: BSAS treatment data prepared on June 18, 2014 by the Office of Data Analytics and Decision Support, Bureau of Substance Abuse Services, Massachusetts Department of Public Health. Data as of May 13, 2014.

Outpatient Services: Factors adding to variation

Outpatient claims were analyzed and marked inconsistency in encounter rates was found between payers. ***As a result, further analysis of outpatient service has been deferred to develop consensus on data reporting conventions and to more accurately interpret the findings.***

The key factors affecting variations in the observed levels of use are:

- Underlying population characteristics including factors such as employment status, poverty, age and disability. The data were not case-mix adjusted for these factors
- Significant differences in coding and benefit plans between payer groups, including:
  - A variety of unique codes in MassHealth providing a broad range of community based support services in 15 minute billing intervals.
  - A range of special services in MassHealth for youth such as Therapeutic Behavioral Services, targeted case management and self-help/peer support.
  - Broad use and coverage of methadone dosing and counseling in MassHealth but not in other health plans.
- Future work will be done to identify outpatient services and service providers.

Conclusion and Summary

Summary

- The Health Planning Council's work has produced a first-of-its-kind review of inventory, need and utilization across all payers. This report should serve as a baseline for future analyses and establishes a framework for the state to utilize in evaluating capacity.
- Data has been provided on need for services, the inventory of providers and types of service and the utilization of services. These data cover 89% of the MA population and include all licensed facilities/programs/clinics.
- A low proportion of licensed clinics integrate mental health and medical services (17%). DPH operates the Behavioral Health Integration Initiative Committee (IIC) designed to improve the current limitations on integration.
- Obtaining reliable data on the inventory, capacity, and utilization of outpatient services remains challenging and further work is needed.
- The data on the behavioral health system are particularly weak for the community outpatient system of clinics, independent professionals, group practices and other specialty organizations not under contract with the state.
- This is one of the first instances of using the Health Policy Commission (HPC) regions* for health planning across all payer groups. Historically neither DMH or BSAS have used these regions, but future work should benefit from this foundation.

* http://www.mass.gov/anf/docs/hpc/2013-cost-trends-report-technical-appendix-b3-regions-of-massachusetts.pdf

Summary: Inventory

- There are 2431 psychiatric inpatient beds in Massachusetts.
- Relative to other states there is a generally high level of inpatient MH beds and a slight increase from 2010-2012. Hospital occupancy rates are also high in both freestanding and acute general hospital beds.
- There does not appear to be a regional association of ED boarding with bed inventory, suggesting that other factors are involved.
- There are 917 Level 4 and Level 3.7 beds or 16.5 beds/100,000. This does not include 482 CSS and Section 35 beds. Relevant comparison points for substance abuse bed capacity are not available because of differences in reporting.

Summary: Utilization

- Overall inpatient utilization declined slightly from 2010 to 2012, but Medicare MH emergency room and crisis utilization increased.
- 18-25 year olds have disproportionately high utilization levels for inpatient and crisis services (both MH and SA) compared to other age groups for Medicare and Commercial plans.
- Access or penetration rates for substance abuse services are much lower than mental health services as a percent of estimated need.
- Males are 60% or more of the substance abuse treatment utilization population.
- Regional variation did not show a consistent pattern.

Note: Supporting analysis can be found here: http://www.mass.gov/eohhs/gov/departments/dph/programs/admin/ohpp/hpc/2014-hpc-meetings.html

Recommendations

Recommendations: Data Collection and Analysis

- Expand data collection and reporting on hospital and community capacity. For example:
  - Improve data collection about occupancy rates
  - Where possible, leverage the Registration of Provider Organization (RPO) process to streamline data collection efforts
  - Explore making information about service availability more publicly accessible
  - Examine opportunities to collect data through professional licensing renewal processes
- Continue to analyze outpatient and APCD data.
- Implement a Behavioral Health Data Planning group with staff from key agencies, including DPH, DMH, MassHealth, CHIA, and HPC.

Recommendations: Ensuring Access

- Continue the work of the Massachusetts Department of Public Health's Behavioral Health Integration Initiative Committee* (IIC) to address the current Agency regulatory barriers that may restrain development of the integration of mental services, substance abuse, and primary care.
- Support the behavioral health integration initiatives of health reform through expanded data collection and continued iterative heath planning.
- Support a robust community system with the resources and capabilities to: 1) keep people healthier, preventing the need for more acute levels of care, 2) divert patients from emergency departments and inpatient services, when clinically appropriate 3) provide patients with strong post-discharge supports, thus enabling timely discharges, and 4) provide timely post-discharge follow-up care.

* http://www.mass.gov/dph/integration

Hearings

- Three public hearings are tentatively scheduled for
  - October 17th (1pm) – Boston, MA
  - October 20th (11am) – Springfield, MA
  - October 29th (11am) – Fall River, MA
- Feedback and observations from the public will be incorporated into the final report.

Public Comment Questions

- What are your general reactions to the information presented? Is the information consistent with your own knowledge and experience? Were any findings surprising to you? Are there any clarifications or additions you would like to make in reference to the data presented?
- What information should the state have and make available, to allow consumers, professionals, providers, purchasers and policy makers to:
  - provide the best possible care for your patients if you are a professional or support staff;
  - make the best possible business planning decisions if you are a provider organization;
  - make the best possible contracting decisions if you are a payer or purchaser of health services;
  - make the best possible planning decisions if you are a policy maker?
- What types of services do you believe are most important to inventory and measure?

Public Comment Questions

- In your experience, what are the best practices to promote access to and availability of behavioral health services in a timely way? What types of services should be available; how much of them; how should they be configured?
- What are the best mechanisms to ensure smooth transitions between different levels of care?
- What is missing in the current organization of the Commonwealth's behavioral health system of care to achieve optimal outcomes?

Health Planning Council

Meeting 11

Advisory Committee

Meeting 8

Percutaneous Coronary Intervention

Madeleine Biondolillo, MD
Associate Commissioner
Department of Public Health
September 22, 2014
www.mass.gov/dph/ohpp

Chapter 224

Chapter 224, Section 14

"The state health plan shall identify needs of the commonwealth in health care services, providers, programs and facilities; the resources available to meet those needs; and the priorities for addressing those needs." […]

"The state health plan developed by the council shall include the location, distribution and nature of all health care resources in the commonwealth and shall establish and maintain on a current basis an inventory of all such resources together with all other reasonably pertinent information concerning such resources." […]

"The plan shall also make recommendations for the appropriate supply and distribution of resources, programs, capacities, technologies and services identified in the second paragraph of this subsection on a state-wide or regional basis based on an assessment of need for the next 5 years and options for implementing such recommendations."

Commonwealth of Massachusetts
Department of Public Health

Service Lines

Level 1	Level 2	Level 3

▪ Obstetrics and Gynecology
▪ Midwifery
▪ "Health Screening and Early Intervention"
  ▪ Mammography
  ▪ Early Intervention Programs
▪ Optometry
▪ Chiropractic
▪ Pharmacy and Pharmacological Services
▪ Radiation oncology: linear accelerators, stereotactic radiosurgery, proton beam therapy
▪ Lithotripsy
▪ Positron emission tomography
▪ Pulmonary (vent beds in long term acute care hospitals)
  ▪ Open Heart Surgery and left ventricular assist device
▪ Organ Transplant Programs
▪ Extracorporeal membrane oxygenation
▪ Robotics
	▪ Dental
	▪ Dialysis units
	▪ "Emergency Services"
	▪ "Acute Care Units"
	  ▪ Medical/Surgical beds
	  ▪ Pediatric inpatient beds
	  ▪ "Surgical" - Outpatient and Inpatient Operating Room
	  ▪ Labor & Delivery
	  ▪ "Post Obstetrical Care"
	  ▪ "ICU" (Adult)
	▪ Specialty Care Units
	  ▪ Coronary Care Units
	  ▪ Burn
	  ▪ "Neonatal Care"
	  ▪ "ICU" (Pediatric)
	▪ Magnetic resonance imaging (MRI)
	▪ Nuclear Medicine Scanners
	▪ CT Scanners
		▪ "Behavioral and Mental Health Services", includes Mental Health and "Substance Abuse Treatment and Services"
		  ▪ Providers, sites of care
		  ▪ Inpatient, outpatient & residential behavioral health & substance abuse
		▪ "Primary Care Resources"
		  ▪ Practitioners
		  ▪ Federally Qualified Health Centers
		  ▪ Limited Services Clinics
		▪ Post Acute Care
		  ▪ Skilled nursing
		  ▪ Inpatient rehab units
		  ▪ Long term acute care
		  ▪ Home health care
		  ▪ Hospice
		  ▪ Long term care and community alternatives to long term care
		  ▪ Assisted living
		  ▪ Long Term Care
		▪ Ambulatory Surgery
		▪ Percutaneous coronary intervention
		▪ Trauma
		  ▪ Air ambulance

Commonwealth of Massachusetts
Department of Public Health

Levels of Analysis

Level of Analysis	Planning Activities	Planning Output
Level 1	▪ Create table with links to best known inventory ▪ Describe data and constraints	▪ Easily accessible table with links to inventory data ▪ Table includes description and data limitations

Level 2	▪ Define health services
	▪ Obtain best available data and describe data and constraints
	▪ If data are available/adequate:
	  ▪ Create inventory
	  ▪ Define method for estimating capacity
	  ▪ Calculate estimate for capacity
	▪ If data are not available, evaluate options for new data collection, data collection
		▪ Definitions adopted by Council for each service
		▪ When inventory data are available
		  ▪ Accessible data sets including inventory
		  ▪ Documented methods for calculating capacity
		  ▪ Estimate of capacity
		▪ When inventory data are not available
		  ▪ Description of data limitations
		  ▪ Recommended methods to improve data
		  ▪ Primary data collection to improve data

Level 3	▪ Define health services
	▪ Data evaluation
	  ▪ In depth review of data
	▪ If data are available
	  ▪ Creation of inventory
	  ▪ Define method for estimating capacity
	  ▪ Calculate estimate of capacity
	▪ If data are not available, evaluate options for new data collection, and undertake data collection
	▪ Issue brief: Define the critical questions that the state health plan seeks to answer in key priority areas, analyze data; provide qualitative and quantitative conclusions as is possible with *current data*
		▪ Definitions adopted by the Council for each service
		▪ List of data sources, with a brief qualitative summary of data, including a synopsis of data quality
		▪ "Best source(s)" identified
		▪ Primary data collection to improve data
		▪ Easily accessible data sets including inventory
		▪ Documented methods for calculating capacity
		▪ Estimate of capacity
		▪ Issue brief

Infrastructure Development	Plan for full implementation of health plan over four upcoming years and ongoing repetition. Include infrastructure development, data warehousing, analytics, staffing, anticipated funding needs and meeting schedules.	

Nonemergency PCI at Hospitals with or without On-Site Cardiac Surgery

(Jacobs, A., et al.)

- "Nonemergency PCI performed at hospitals in Massachusetts without on-site cardiac surgery was non-inferior to PCI performed at hospitals with on-site cardiac surgery with respect to the rate of major adverse cardiac events at 30 days (safety analysis) or at 12 months (effectiveness analysis). These data suggest that performance of PCI in hospitals without on-site cardiac surgery that have established programs for PCI and the requisite experience in performing the procedure, at both the hospital level and the level of individual operators, may be considered an acceptable option for patients presenting to such hospitals for care."
- **Takeaway:** Nonemergency PCI can be safely delivered at hospitals with the requisite experience and collaboration without backup surgery.

Source: Jacobs, A., et al. (2013, April 18) Nonemergency PCI at Hospitals with or without On-Site Cardiac Surgery. *N Engl J Med* 368, 1498-1508.

PCI Research

Evidence of Systematic Duplication by New Percutaneous Coronary Intervention Programs (Concannon, T.W., Nelson, J., Kent, D. & Griffith, J.)

- "New PCI programs were more likely to be introduced in areas that already had a PCI program with more competition for market share, near populations with higher rates of private insurance, in states that had weak or no regulation of new cardiac catheterization laboratories, and in wealthier and larger hospitals."
- "Our data show that new PCI programs were systematically duplicative of existing programs and did not help patients gain access to timely PCI. The total cost of recent US investments in new PCI programs is large and of questionable value for patients."
- **Takeaway:** New PCI programs are often created near existing programs, and do not improve access to PCI.

Source: Concannon, T.W., Nelson, J., Kent, D. & Griffith, J. (2013, July 9) Evidence of Systematic Duplication by New Percutaneous Coronary Intervention Programs. *Circ Cardiovasc Qual Outcomes*.

Current Policy

- The Invasive Cardiac Services Advisory Committee (ICSAC) was established pursuant to the hospital licensure regulations for cardiac catheterization services. The committee advises the Department on issues related to cardiac services.

- At its meeting on April 17, 2014, based on the recommendation of its PCI Oversight Subcommittee, the Department's ICSAC voted to recommend to the Department that upon consideration of several factors, including the declining PCI volume in Massachusetts and that at least **eighty-six percent of the population lives within a 30-minute ambulance ride of a PCI capable hospital, there is no demonstrable need for any additional emergency or non-emergency PCI programs in the Commonwealth and that any additional programs may have an adverse impact on the existing quality of PCIs performed**.

- Subsequent to that vote, the Department issued a **Circular Letter: DHCQ 14-6-617 (July 14, 2014)** to all hospitals informing them of the following policy updates:
    1. Clarification of requirement to meet volume minimums for cardiac catheterization services;
    2. Amended policy applicable only to certain Accountable Care Organizations (ACOs) regarding the moratorium on new cardiac catheterization services; and
    3. New policy regarding percutaneous coronary intervention (PCI) services.

Source: http://www.mass.gov/eohhs/docs/dph/quality/hcq-circular-letters/2014/dhcq-1406617.pdf

Note: Beth Israel Deaconess Hospital-Plymouth has a pending application to perform primary/emergency PCI (filed prior to the change in policy).

Overview

Inventory

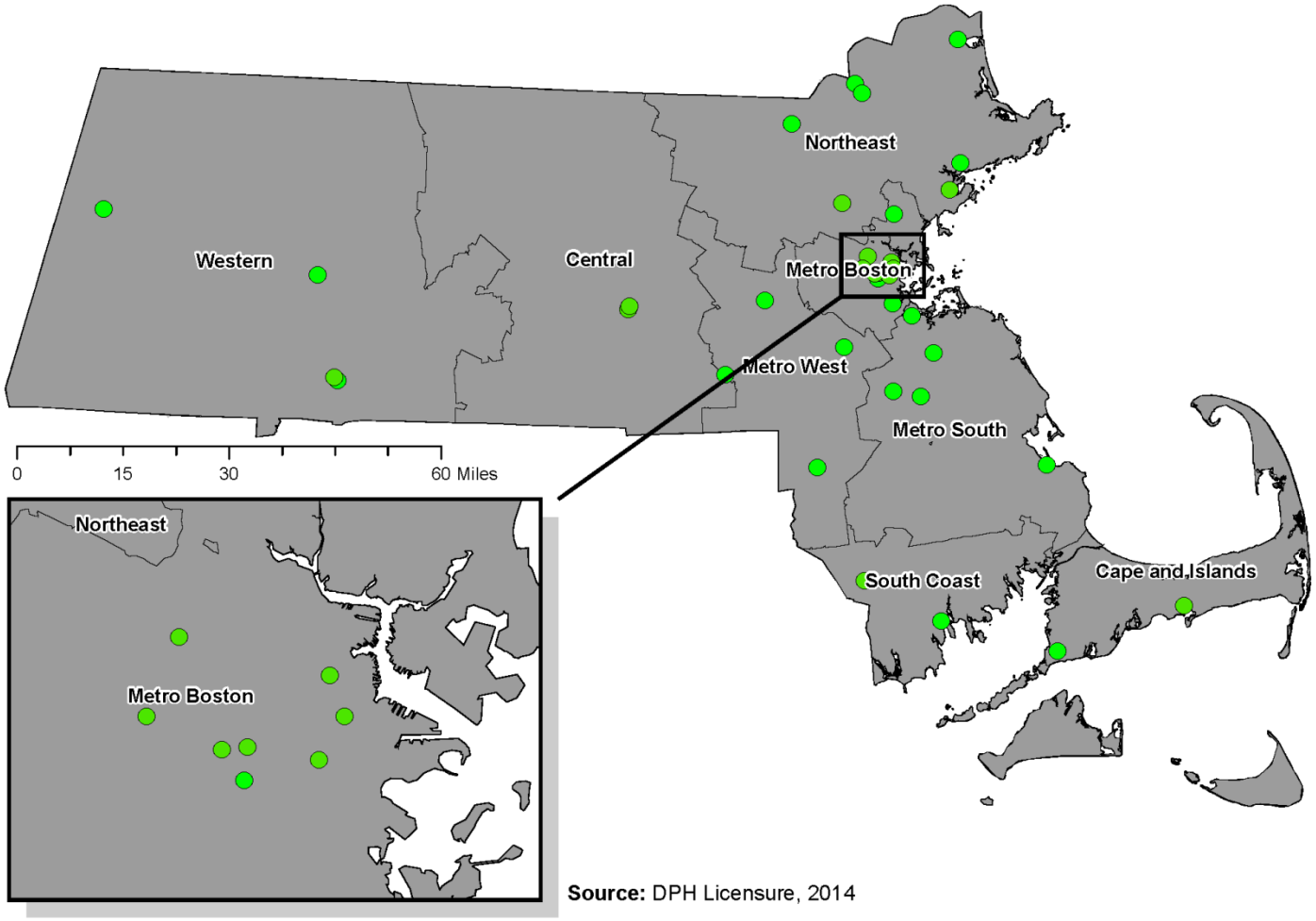
Capacity

Need

Inventory

Inventory

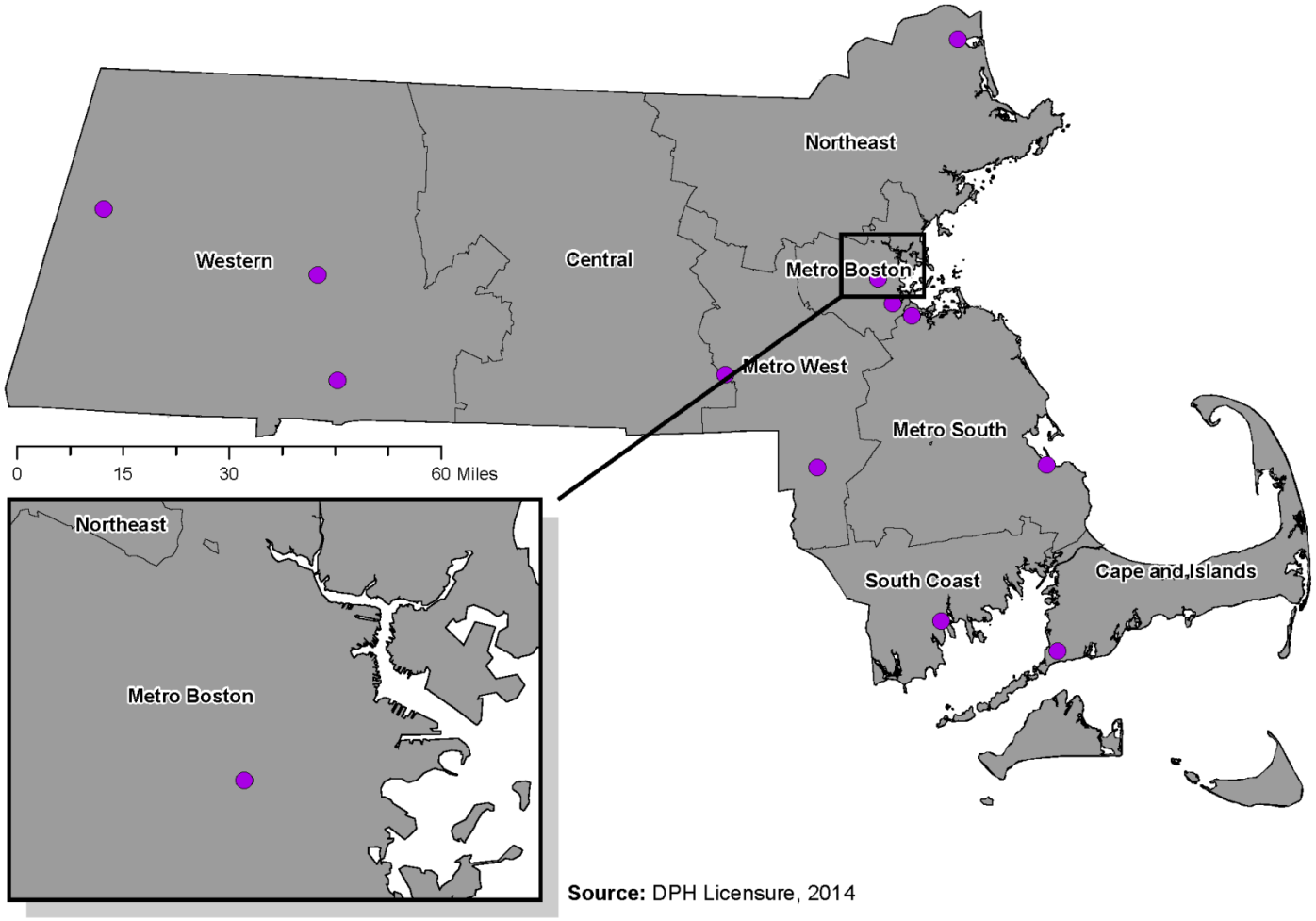
36 Adult Cardiac Catheterization Service Hospital Locations



Source: DPH Licensure, 2014

Inventory

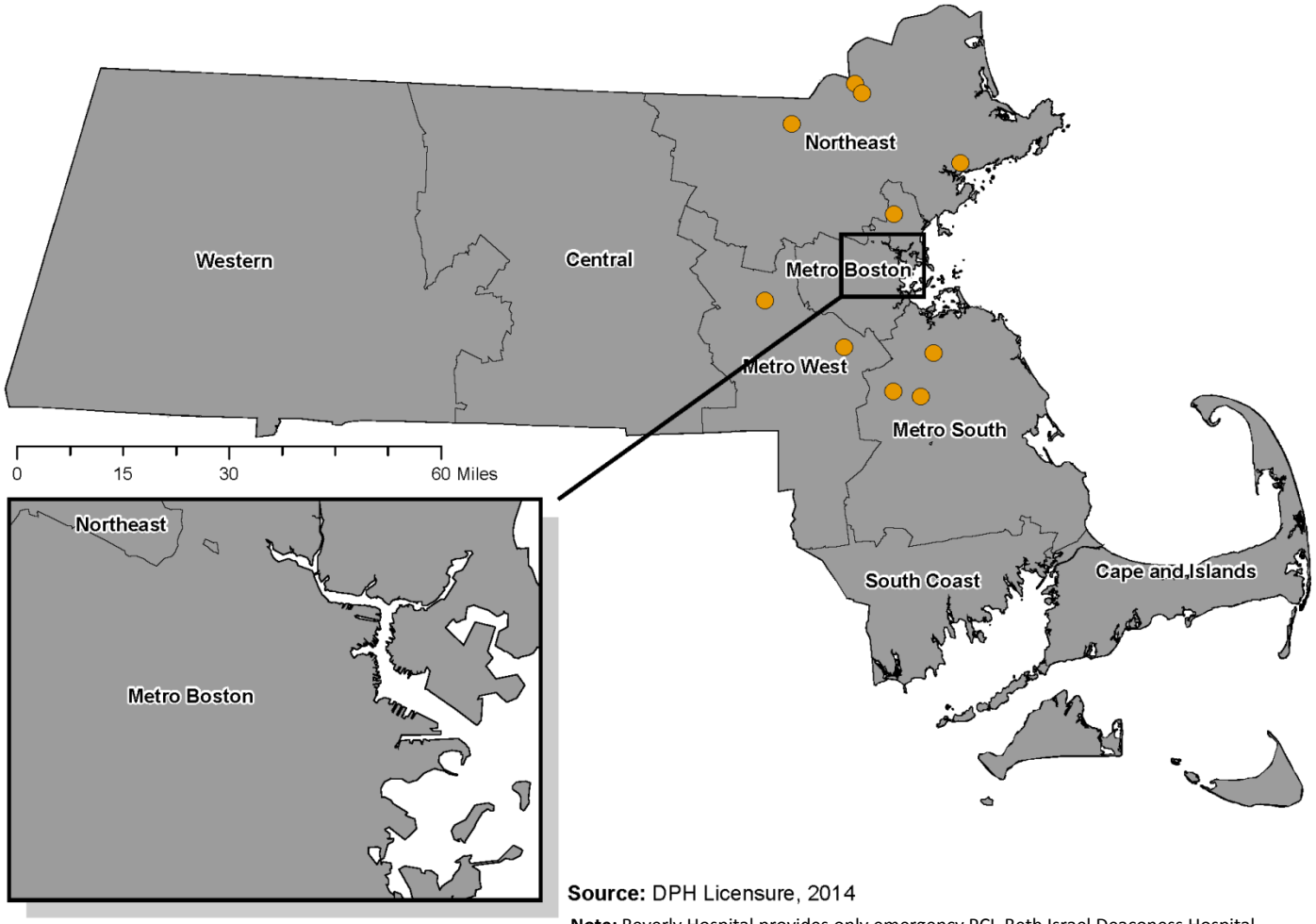
12 Diagnostic Only Cardiac Catheterization Service Hospital Locations



Source: DPH Licensure, 2014

Inventory

10 PCI Non-Surgery on Site Hospital Locations

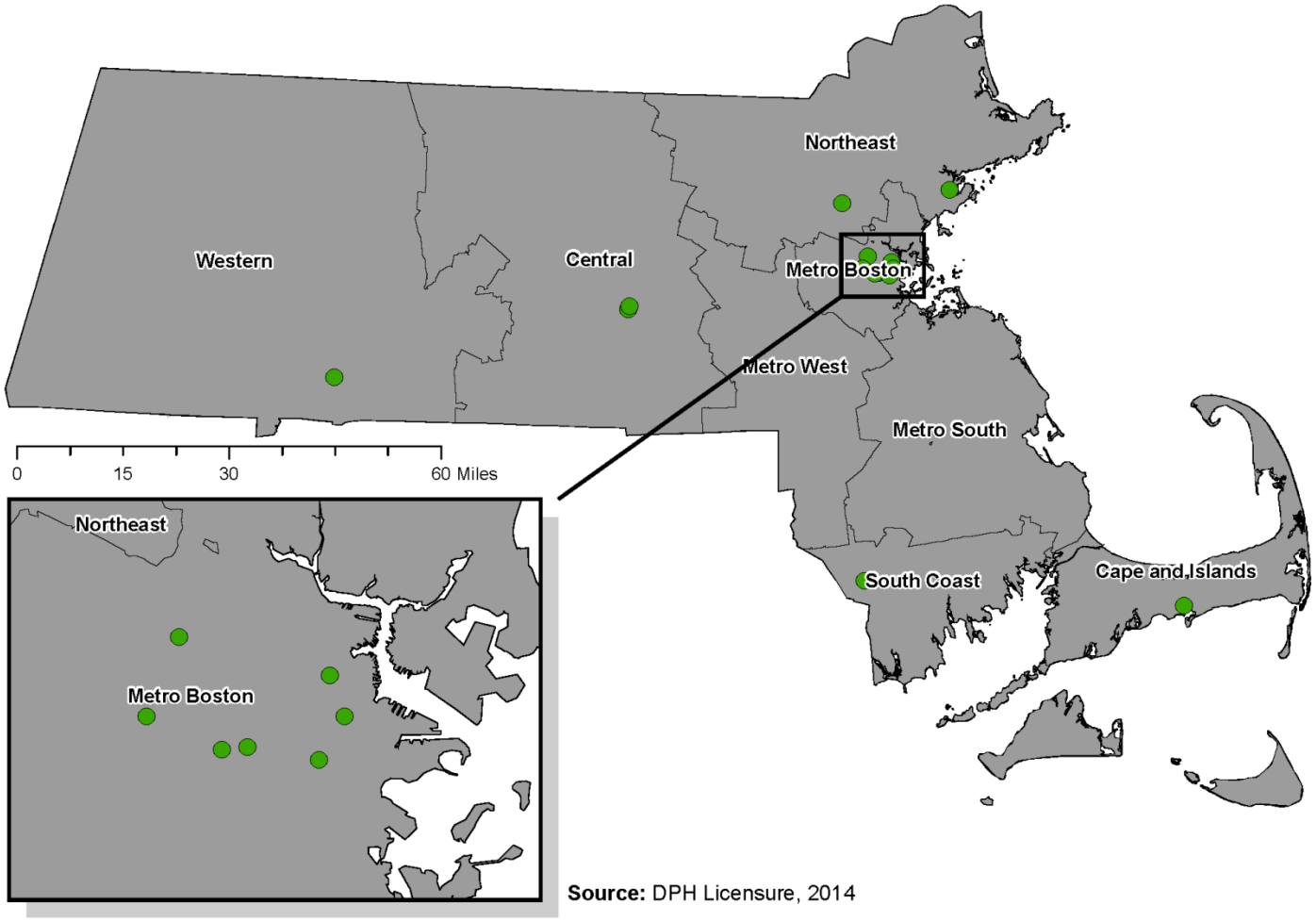


Source: DPH Licensure, 2014

Note: Beverly Hospital provides only emergency PCI. Beth Israel Deaconess Hospital - Plymouth (not shown) has a pending application to perform primary/emergency PCI. Saints Medical Center was a former MASS COMM site, but the hospital merged with Lowell General in 2012 and transferred its cardiac catheterization activity to the Lowell campus.

Inventory

14 PCI Surgery on Site Hospital Locations



Source: DPH Licensure, 2014

Capacity

Survey

- DPH is collecting data (through a survey sent August 2014) on the capacity of cardiac catheterization labs, including:
  - Number of procedure rooms
  - What other procedures (besides cardiac catheterization, PCI, and electrophysiology studies) are done in those rooms
  - How often the rooms are available
  - How often the rooms are utilized
  - What percentage of patients are out of state

Need

Population Growth

- The Donahue Institute at UMass Boston developed population projections for Massachusetts that projected a modest 1.8% overall increase in the state's population over the next 6 years (in 2020 - see next page).
- Metro Boston showed the highest growth rate at 3.6% over that period, while the Cape and the Islands showed a minor decrease in population.
- Only the population 18+ was considered for the purposes of analyzing PCI.

Population Growth

HPC Region	% 18+	2014 Estimates	2020 Estimates	% Increase
Western MA	80%	661,204	665,172	0.6%
Central MA	77%	585,098	603,227	3.1%
Northeast	76%	1,068,604	1,075,145	0.6%
Metro West	75%	494,830	500,188	1.1%
Metro Boston	83%	1,304,593	1,351,866	3.6%
Metro South	77%	633,851	647,860	2.2%
South Coast	80%	273,069	274,427	0.5%
Cape and Islands	84%	204,257	203,598	-0.3%
Total	**79%**	**5,225,505**	**5,321,483**	**1.8%**

Note: Data is estimate of population 18+ based on 2010 Census age breakdown

Source: UMass Donahue Institute – Special Analysis for Health Planning Council November 2013.

Commonwealth of Massachusetts
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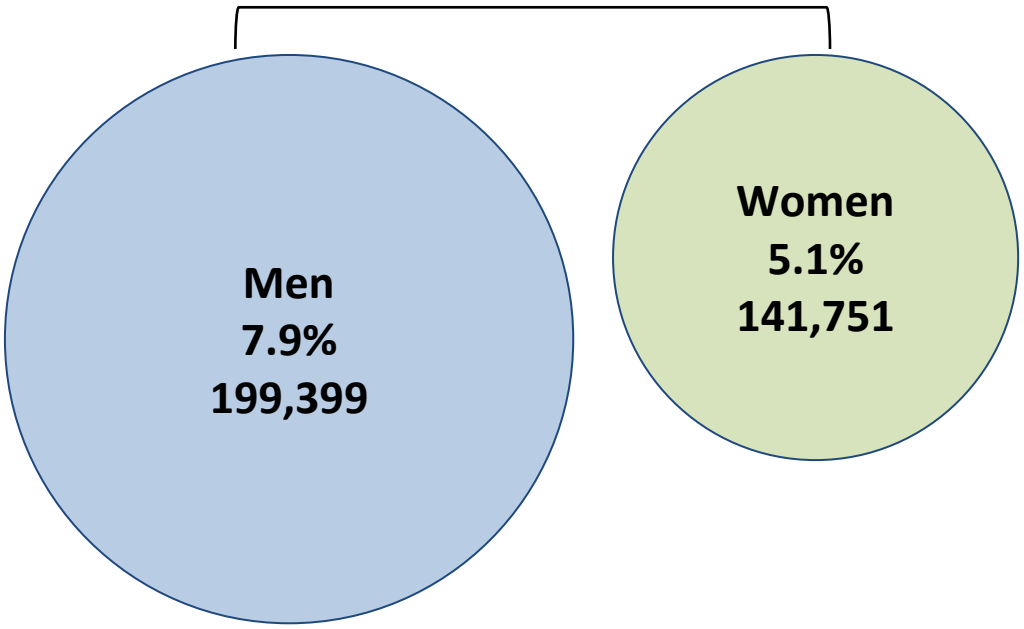
Prevalence Data for CHD and MI

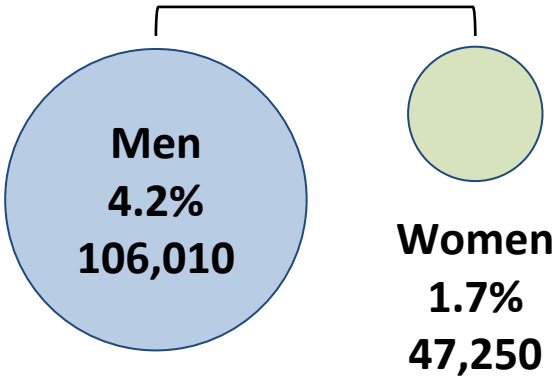
Coronary Heart Disease (CHD)

Overall: 6.4% nationally*
339,420 residents of MA (18+)**



Myocardial Infarction (MI)

Overall: 2.9% nationally*
153,800 residents of MA (18+)**



* Go, A.S. et al. AHA Statistical Update: *Heart Disease and Stroke Statistics—2014 Update*, Table 18-1. *Circulation, 129*(3), e28-e292, http://circ.ahajournals.org/content/129/3/e28/T55.expansion.html. Data from 2010.

** Based on 2015 population projections from the UMass Donahue Institute. Only includes population 18+, based on 2010 Census age breakdown.

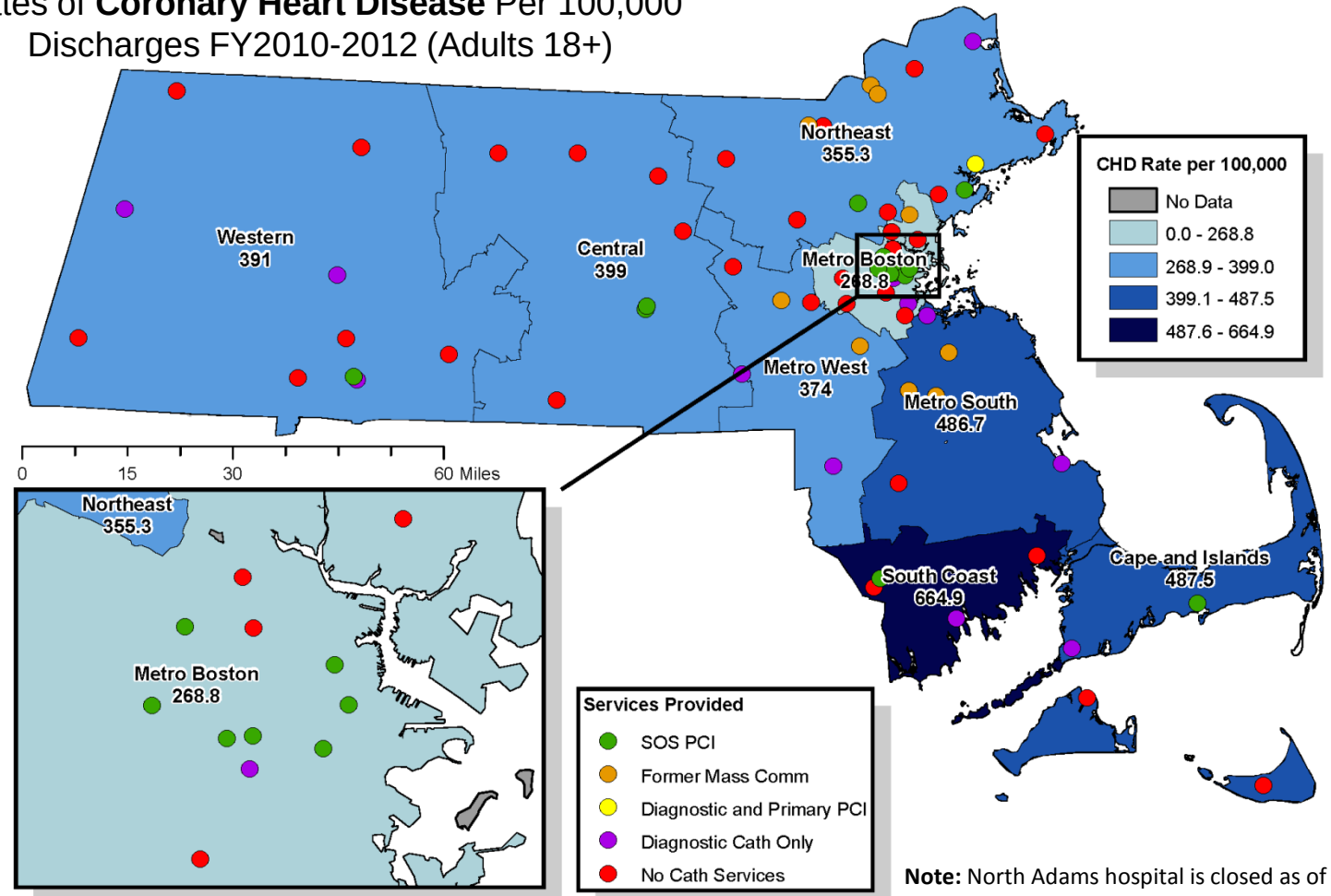
Prevalence Data for CHD and MI

- DPH is looking at trends in prevalence rates for coronary heart disease and myocardial infarctions from Behavioral Risk Factor Surveillance System data.
- This data is disaggregated by demographic factors (age, race, sex).
- By comparing trends in these rates with projected changes in the population (from the UMass Donahue Institute), future need can be estimated.

PCI Hospitals - CHD

Hospital Location by Cardiac Cath/PCI Services

Rates of **Coronary Heart Disease** Per 100,000 Discharges FY2010-2012 (Adults 18+)



Source: Center for Health Information and Analysis, Hospital Inpatient Discharge Database, FY2010-2012. U.S. Census Bureau, 2010. DPH liscensure, 2012.

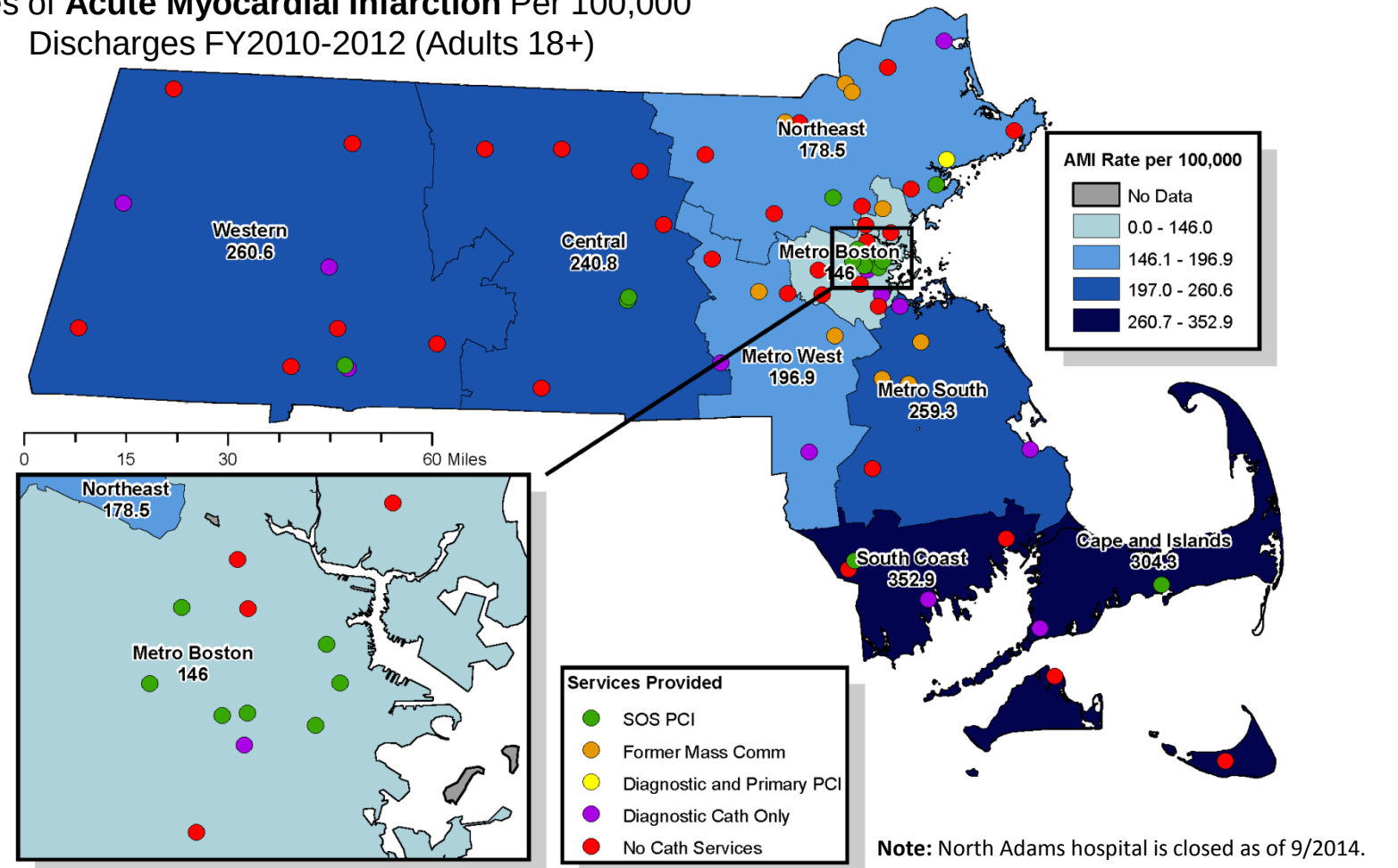
Note: North Adams hospital is closed as of 9/2014.

Note: Saints Medical Center was a former MASS COMM site, but the hospital merged with Lowell General in 2012 and transferred its cardiac catheterization activity to the Lowell campus.

PCI Hospitals - AMI

Hospital Location by Cardiac Cath/PCI Services

Rates of **Acute Myocardial Infarction** Per 100,000 Discharges FY2010-2012 (Adults 18+)



Source: Center for Health Information and Analysis, Hospital Inpatient Discharge Database, FY2010-2012. U.S. Census Bureau, 2010. DPH liscensure, 2012.

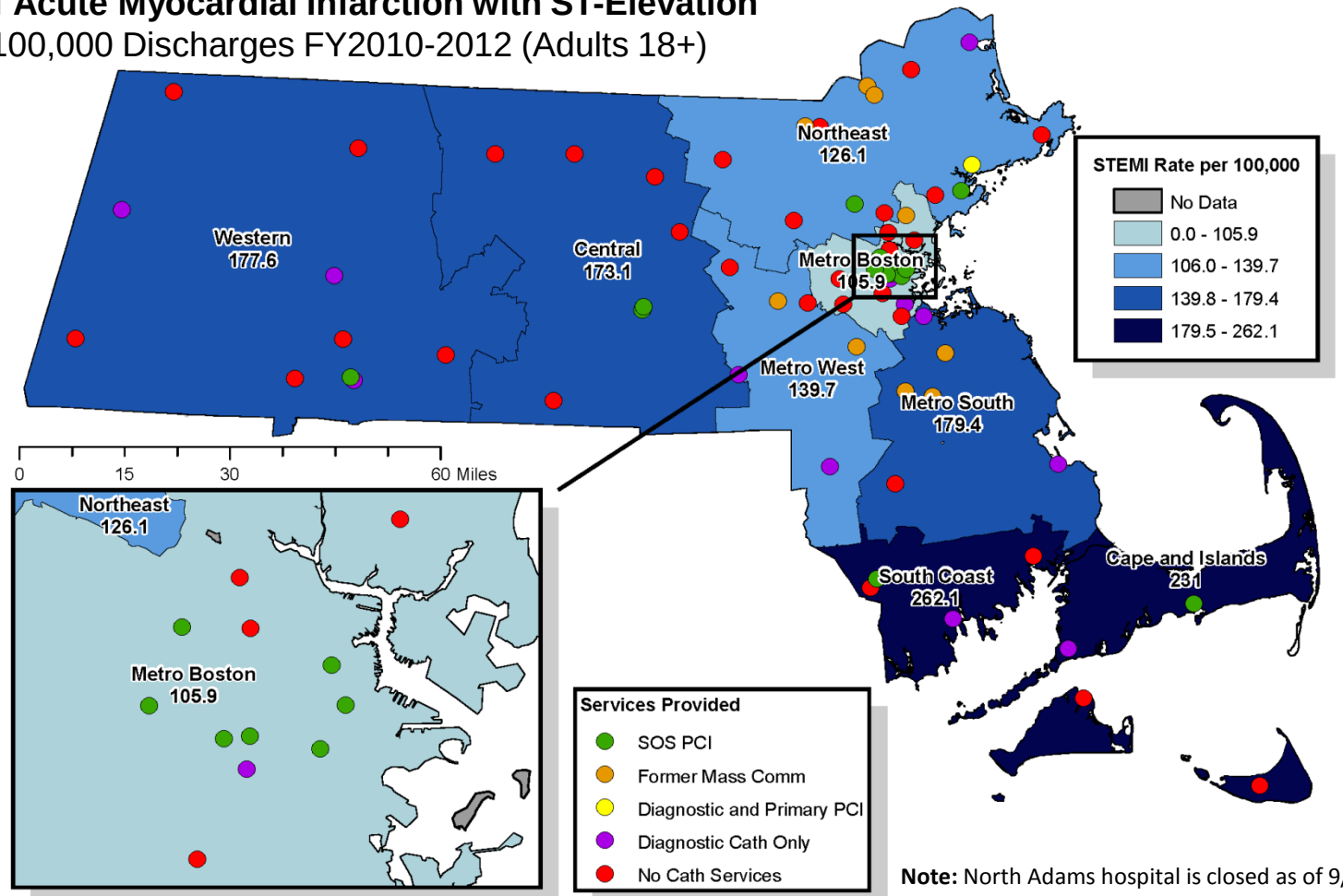
Note: North Adams hospital is closed as of 9/2014.

Note: Saints Medical Center was a former MASS COMM site, but the hospital merged with Lowell General in 2012 and transferred its cardiac catheterization activity to the Lowell campus.

PCI Hospitals - STEMI

Hospital Location by Cardiac Cath/PCI Services

Rates of **Acute Myocardial Infarction with ST-Elevation**
Per 100,000 Discharges FY2010-2012 (Adults 18+)



Source: Center for Health Information and Analysis, Hospital Inpatient Discharge Database, FY2010-2012. U.S. Census Bureau, 2010. DPH liscensure, 2012.

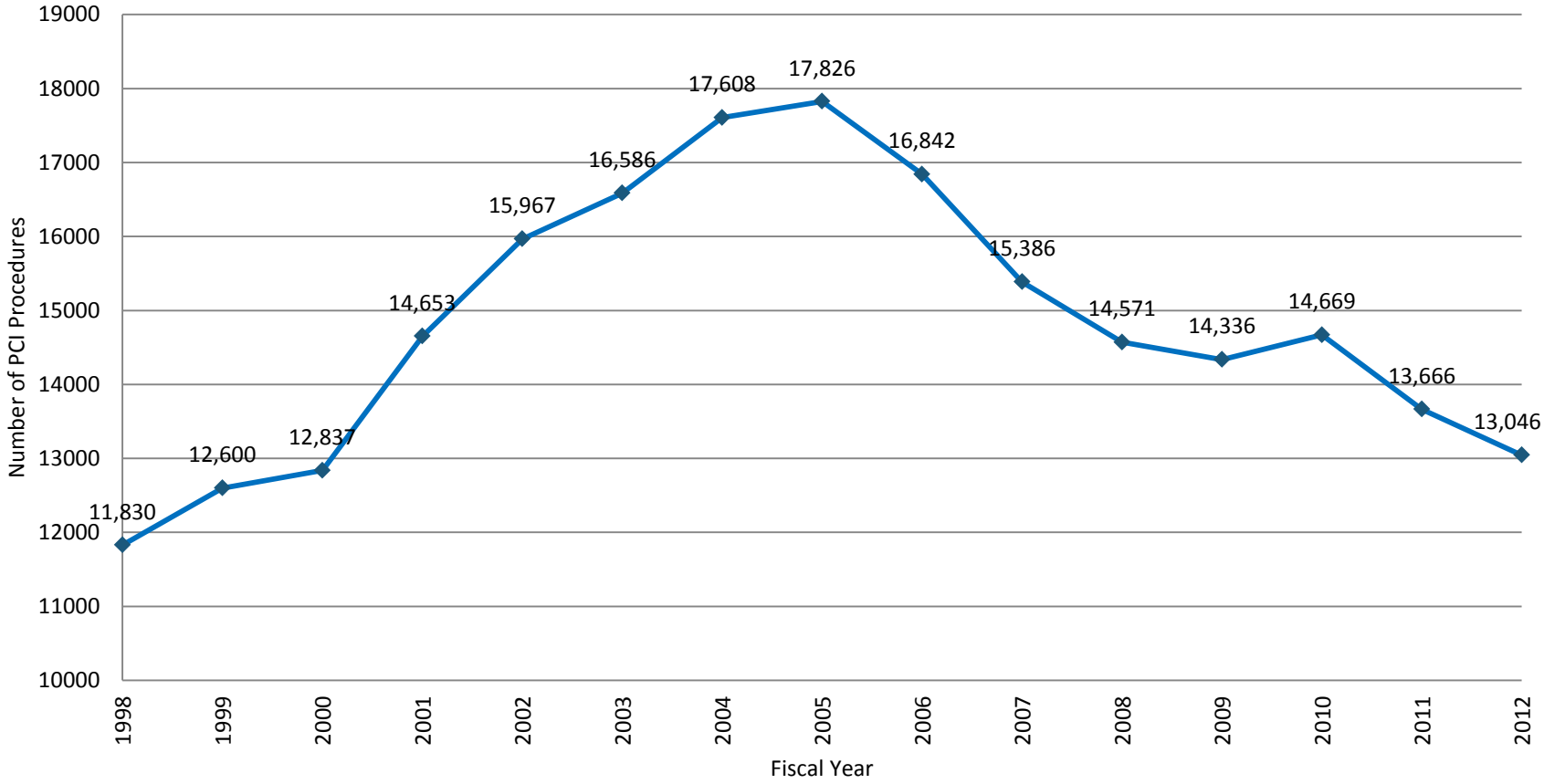
Note: North Adams hospital is closed as of 9/2014.

Note: Saints Medical Center was a former MASS COMM site, but the hospital merged with Lowell General in 2012 and transferred its cardiac catheterization activity to the Lowell campus.

PCI Volume

Volume of PCI Procedures, FY1998 – 2012

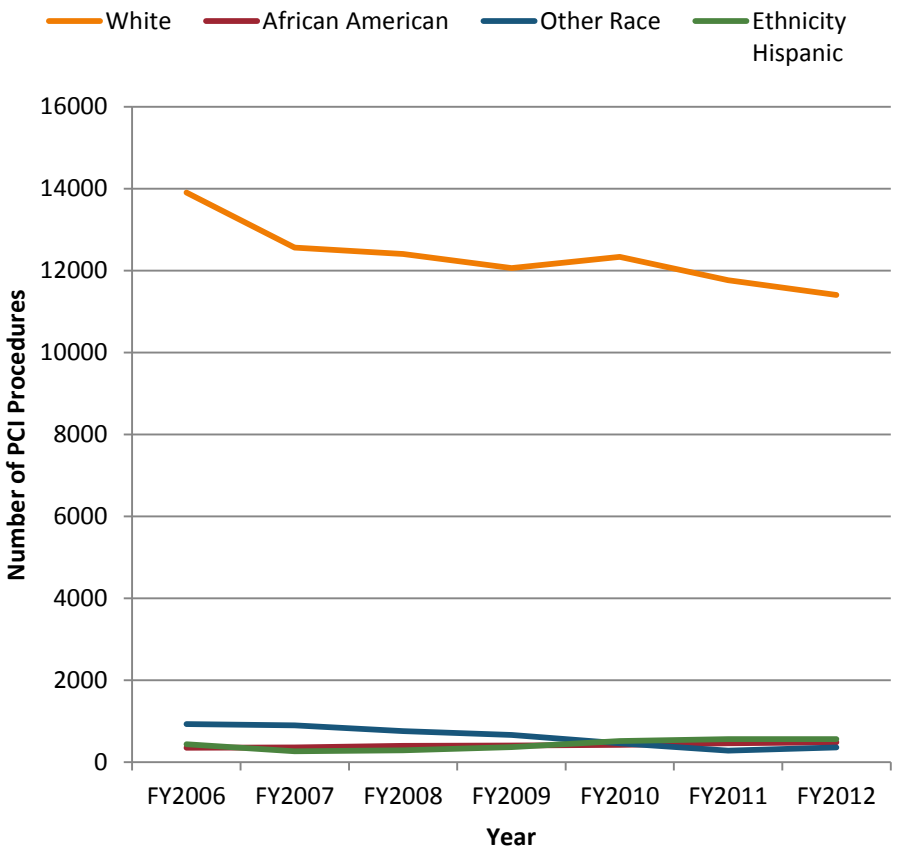
27% decrease since 2005



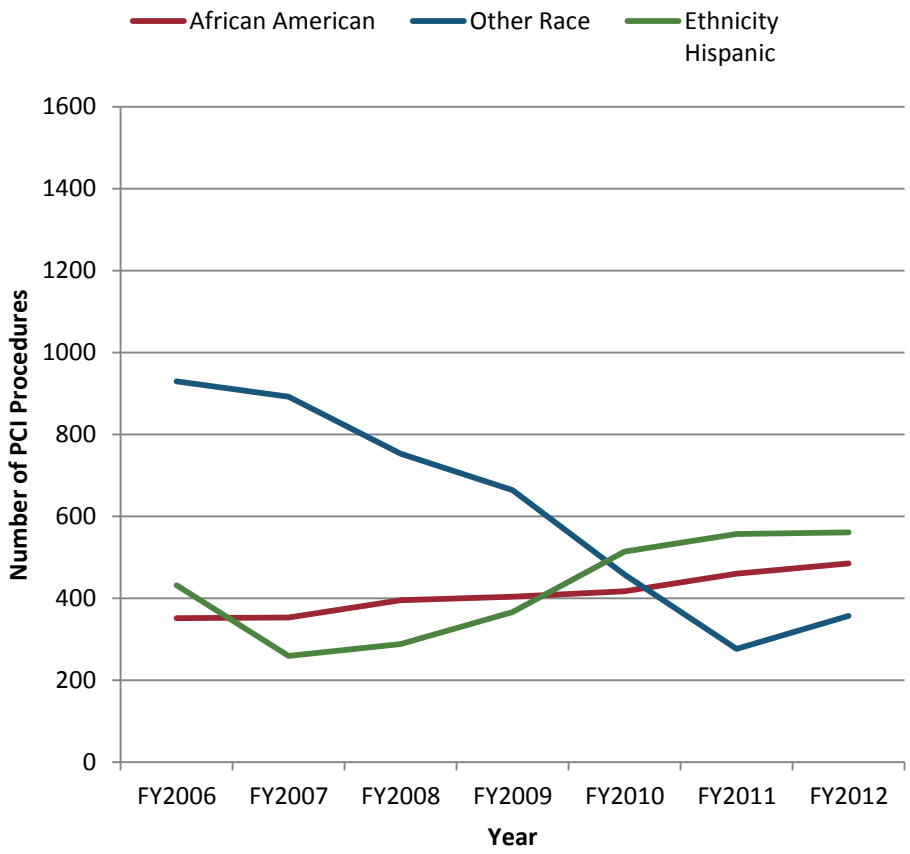
Source: DPH data collection

PCI Volume by Race

Volume of PCIs in MA by Race, FY2006-FY2012



Volume of PCIs in MA by Race (Except "White"), FY2006-FY2012



Note: The y-axis scale on the left is 10 times larger than on the right.

Source: Massachusetts Data Analysis Center, Harvard Medical School, Annual PCI Reports 2006-2012

PCI Volume

Institutional PCI volume minimum

- Pursuant to DPH hospital licensure regulations, cardiac catheterization services that perform PCI must perform 200 PCIs per year. This volume minimum is consistent with the American College of Cardiology Foundation/American Heart Association/Society for Cardiovascular Angiography and Interventions recommendations.[1]
- Worse outcomes have been identified with laboratories performing fewer than 200 PCIs annually.
- Additional PCI services will dilute the volume of existing programs.

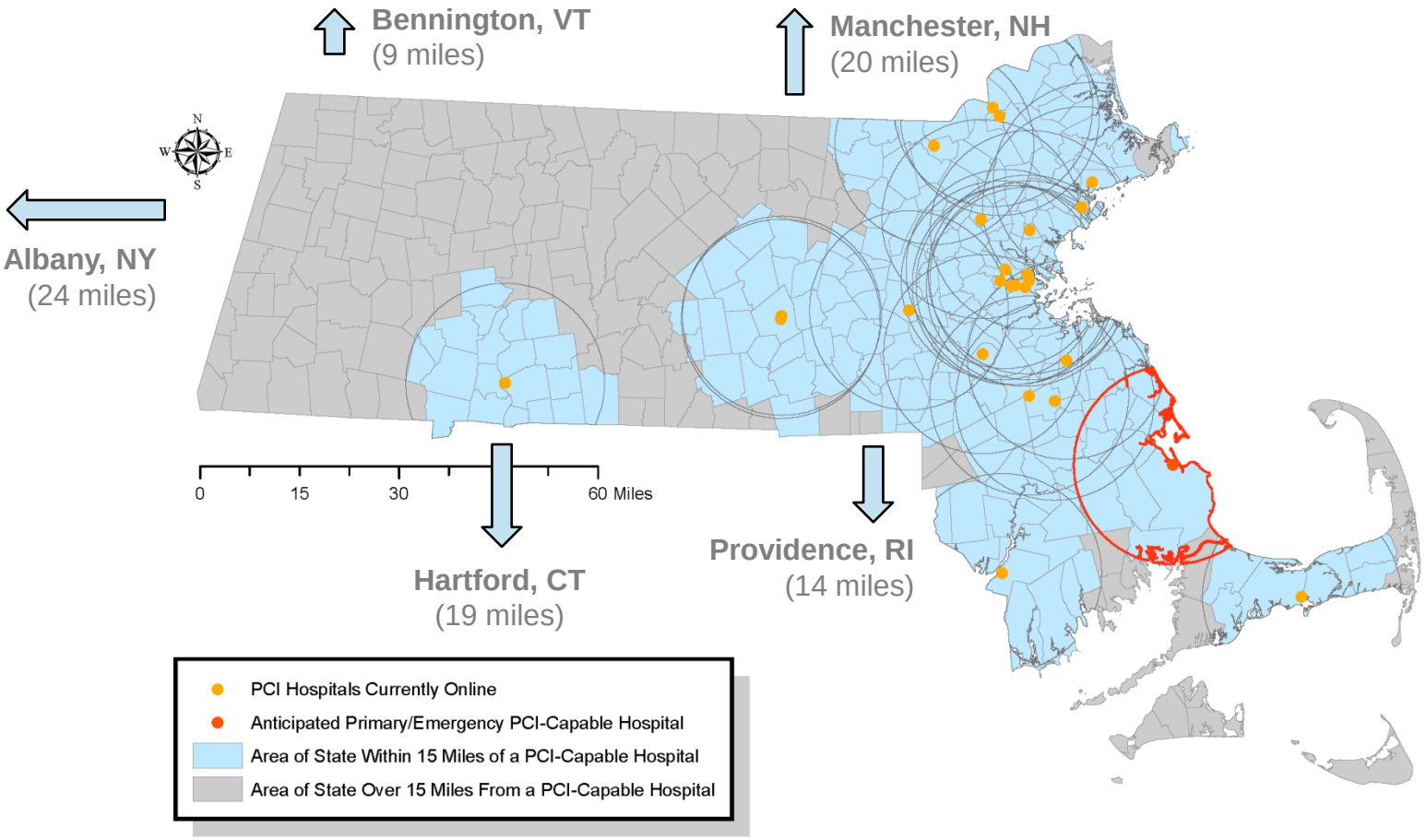
PCI operator volume

- The DPH hospital licensure regulations, as currently written, require PCI operators (interventionalists) to perform 75 PCI procedures per year, consistent with previous national guidelines. In the recent updates to the national guidelines, the recommended operator volume is now 50 PCIs per year, averaged over two years. The Department will be revising its licensure regulations to be consistent with these new recommendations.

[1] American College of Cardiology Foundation/American Heart Association/Society for Cardiovascular Angiography and Interventions (ACCF/AHA/SCAI) 2013 Update of the Clinical Competence Statement on Coronary Artery Interventional Procedures and the SCAI/ACC/AHA Expert Consensus Document: 2014 Update on Percutaneous Coronary Intervention Without on-Site Surgical Backup

PCI Access

Areas of the State Within 15 Miles of PCI-Capable Hospital



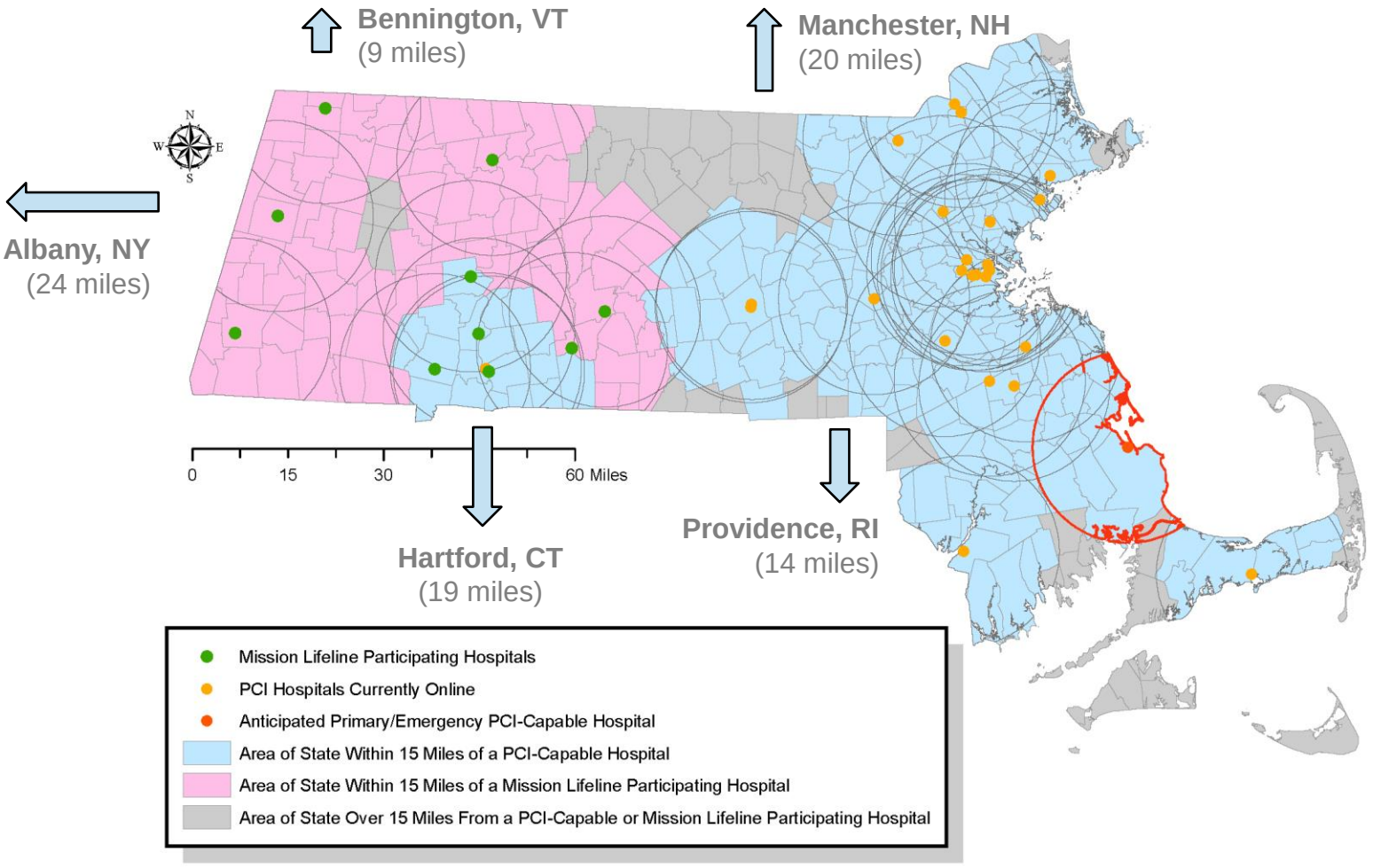
PCI Access

Mission Lifeline

System in Western Massachusetts for EMS providers to deliver thrombolytics and coordinate care with Baystate Medical Center in order to improve access to acute cardiac care in that part of the state.

PCI Access

Areas of the State Within 15 Miles of PCI-Capable Hospital or Mission Lifeline Participating Hospital



Current Initiatives

- The Invasive Cardiac Services Advisory Committee's (ICSAC) PCI subgroup is developing peer review guidelines
- Mass-DAC will continue to collect PCI data
- Data collection of diagnostic cardiac catheterization and electrophysiology procedures is being transferred to HCFRS (Health Care Facility Reporting System)

Next Steps

- More detailed data regarding capacity is currently being collected and will be presented to the Council and Advisory Committee at a future meeting.
- DPH is continuing its work to address additional priority areas, and expects long-term care to be the next service line to be planned.

Appendix – Hospitals with Cardiac Catheterization Labs

Hospital	Street	Town	ZIP
ANNA JAQUES HOSPITAL	25 Highland Ave	Newburyport	01950
BAYSTATE MEDICAL CENTER	759 Chestnut St	Springfield	01199
BERKSHIRE/BERKSHIRE CAM	725 North St	Pittsfield	01201
BIDMC	330 Brookline Ave	Boston	02215
BID-PLYMOUTH	275 Sandwich St	Plymouth	02360
BEVERLY	85 Herrick St	Beverly	01915
BMC	88 East Newton St	Boston	02118
BWH	75 Francis St	Boston	02115
CAPE COD	27 Park St	Hyannis	02601
CARNEY	2100 Dorchester Ave	Dorchester	02124
COOLEY DICKINSON	30 Locust St	Northampton	01061
FALMOUTH	100 Terrace Heun Dr	Falmouth	02540
GOOD SAMARITAN	235 N Pearl St	Brockton	02301
HALLMARK MELROSE-WAKE	585 Lebanon St	Melrose	02176
HOLY FAMILY	70 East St	Methuen	01844
LAHEY CLINIC	41 Mall Rd	Burlington	01805
LAWRENCE GENERAL	1 General St	Lawrence	01841
LOWELL GENERAL	295 Varnum Ave	Lowell	01854
MASS GENERAL	55 Fruit St	Boston	02114
MERCY MEDICAL CENTER	271 Carew St	Springfield	01104
METROWEST -FRAM UNION	115 Lincoln St	Framingham	01702
MILFORD	14 Prospect St	Milford	01757
MOUNT AUBURN	330 Mt Auburn St	Cambridge	02138
NEW ENGLAND BAPTIST	125 Parker Hill Ave	Roxbury Crossing	02120
NORTH SHORE/SALEM	81 Highland Ave	Salem	01970
NORWOOD	800 Washington St	Norwood	02062
QUINCY	114 Whitwell St	Quincy	02169
SIGNATURE-BROCKTON	680 Centre St	Brockton	02302
SOUTH SHORE HOSPITAL	55 Fogg Road	South Weymouth	02190
SOUTHCOAST/CHARLTON	363 Highland Ave	Fall River	02720
SOUTHCOAST /ST LUKES	101 Page St	New Bedford	02740
ST ELIZABETH'S	736 Cambridge St	Brighton	02135
ST VINCENT	123 Summer St	Worcester	01608
STURDY MEMORIAL	211 Park St	Attleboro	02703
TUFTS	800 Washington St	Boston	02111
UMASS /UNIV CAMPUS	55 Lake Ave North	Worcester	01655